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PART FIRST.

ORIGINAL COMMUNICATIONS.

ART I.—*On Pulsating Tumors of Bone ("Aneurism of Bone"?): With Remarks.* By CHARLES D. SMITH, M. D., one of the Surgeons to Bellevue Hospital, Member of the New-York Pathological Society, &c., &c. [With Illustrations.]

MISS C——, 24 years of age, unmarried, of nervous temperament, and of previous good health, came under my care in the month of March last for a painful swelling of the left ankle, which came on, without any apparent cause, a month or two before. The skin was slightly reddened, and painful to the touch, particularly over the internal malleolus. There was also a creaking sensation about the joint, when handled. She walked with difficulty, increasing thereby the pain and tension. The pain would occasionally leave her, and the swelling subside. It had the complexion of a scrofulous disease of the joint, but there being no evidence of struma in the system, I was at loss to what to attribute it. Local means as well as constitutional remedies were resorted to without avail. The

disease remained about the same, till the month of May, when I detected something like fluctuation over the internal malleolus,—which in two weeks became distinct. The skin was not changed in color, neither did it have the feel, nor present the appearances of an abscess.

In the early part of June, I noticed in this situation a pulsation, which from day to day became more evident, and was synchronous with the arterial pulse. Pressure on the posterior tibial artery arrested the pulsation in the tumor. At this time Dr. Van Buren was called in consultation, who confirmed my diagnosis, viz.,—aneurism of the posterior tibial artery, and at the same time, suggested that possibly the bone might be involved. She readily consented to our proposition to tie the posterior tibial; and with the view of cutting off the recurrent circulation, it was also deemed advisable to put a ligature upon the anterior tibial, where it passes over the dorsum of the foot.

On the 2d of July, the posterior tibial artery was first tied, about an inch and a half above the tumor. The pulsation ceased only for a short time, and the size of the tumor was not at all diminished. The same result followed deligation of the anterior tibial. On visiting my patient the morning following the operation, the pulsation had returned with full force, and was plainly felt through the bandages. During the month of July the disease steadily increased. The skin in the neighborhood assumed a transparent appearance. The tumor grew larger, more firm, and resisting to the touch, and the pulsation became decided. Pressure upon the femoral as well as popliteal artery arrested it. Its true character was determined by the crackling sensation, and breaking down of something like an osseous shell under the fingers. The wounds from the operation did not heal kindly. It was seven weeks before she recovered, yet her general health was not materially injured, either by the progress of the disease, or her long confinement. About the middle of July, Dr. Mott was called in, to decide the question of amputation. His opinion was, that inasmuch as pressure over the femoral artery completely controlled the pulsation in the tumor, deligation of that artery might be tried. He was also of opinion, that the

ligature was preferable to compression in this particular case.

On the 23d of August, Miss C. having entirely recovered from the first operation, in the presence of Drs. Mott, Van Buren, Stone, and others, I placed a ligature around the

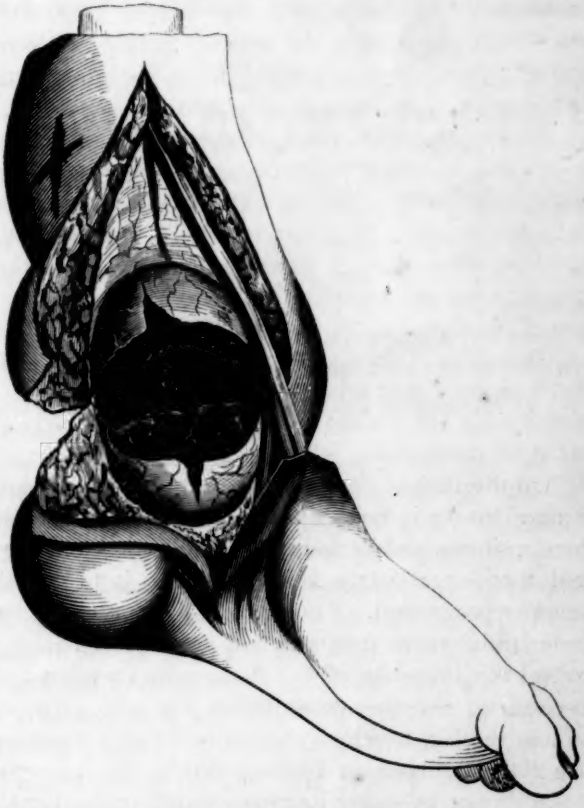

Fig. 1. Appearance of the disease on dissection.

femoral artery, immediately below Poupart's ligament, and above the profunda. Pulsation in the tumor instantly ceased, but it did not collapse as in ordinary aneurisms, neither did it diminish in size. From this operation my patient rapidly recovered, without any unpleasant symptoms. The ligature

came away on the 22d day, and the wound healed readily. The tumor subsided about half an inch in the course of the week following the operation, but it soon after increased to its former dimensions.

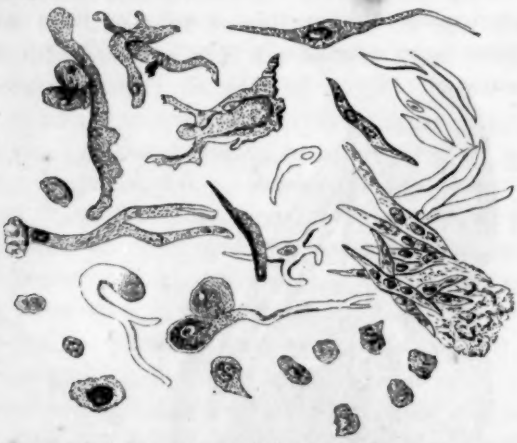

Fig. 2. Microscopical appearances of the brain-like matter composing the tumor.

On the 12th of September, I felt a gentle pulsation in the femoral artery in Scarpa's space, and at the same time in the tumor, since which period it has been noticed only occasionally, and then exceedingly feeble. Suffice it to say, the disease steadily progressed. The tibia expanding, stretched the anterior tibial nerve, causing great pain. Her health, too, began to feel the influence of the disease, and rendered amputation necessary. Another consultation was held. She was advised to lose the leg, to which she unhesitatingly consented, and on the 20th of November I removed it, at the place of election.

A day or two after its removal, my friend Dr. C. E. Isaacs injected the limb, through the posterior tibial artery, with a preparation of chromate of lead dissolved in ether. The skin and fascia were then removed, and exposed the periosteum thickened. The shell of bone under it was broken down, and in some points partly absorbed. When cut into, there was presented a soft, brain-like mass, of a reddish brown color, mixed with the injecting material. Upon turning this out, it

was discovered that the lower end of the tibia was absorbed, for about half an inch. The cartilage lining the surface, articulating with the astragalus, was preserved. The bone was expanded into a thin shell, the cancellated structure gone, and its place occupied by the matter described. No vessels were found entering into the tumor, although the bone and neighboring parts were exceedingly vascular. The other tissues were healthy.

Remarks.—Prior to the year 1826, only four cases of pulsating tumor of bone had been reported. One published by Pearson, of London, in 1790; another by Scarpa, 12 years after. The other two, by Dupuytren and Liston, in 1819. During the year 1826, Monsieur Breschet, of Paris, wrote in the *Répertoire d' Anatomie et Pathologie*, a particular description of this disease, suggested by a case of M. Lallemand. About the same period, Mr. Syme, of Edinburgh, began to lecture on the subject, without any knowledge (he says) of M. Breschet's views; since which time, between twenty-five and thirty cases have been reported by the surgeons of Europe and this country.

The most frequent seat of the disease is the head of the tibia, and the condyles of the femur, but it has also been met with in the humerus, the radius, scapula, ankle, metatarsal bones, os calcis, and the bones of the skull. Instances are on record also of tumors of this description originating in more than one bone. Mr. Stanley, in his work on *Diseases of Bones*, cites the case of an old man, who had seven distinct pulsating tumors, developed in different parts of the skeleton. Males are the most subject to it, and it is very seldom met with before the age of puberty, occurring generally between 30 and 40. The causes giving rise to this malady are somewhat obscure. It may proceed from a blow or fall, or some external violence, and the interval between such causes, and the appearance of the disease, may be very long. As to the immediate condition of the system, or part affected, favoring its development, Miller remarks:—"A morbid condition of the blood and blood-vessels, an artery giving way, or arterial ulceration forming spontaneously, may be included among its causes." Mr.

Stanley makes three distinct sources of pulsation. 1st. Proximity to a large artery. 2d. The development of blood-vessels and blood-cells, constituting a sort of erectile tissue. 3d. The enlargement of the arteries of the bone." Or, as described by another writer on this subject, "a true aneurismal sac, communicating with an infinite number of arterial orifices, may be found to exist, or a mass, formed by arteries, interlaced in various ways.* Either of these conditions may be associated with carcinoma, developed in the tissue itself, or in the neighboring parts.

Anatomical Characters.—"When the tumor is formed, the bone presents a greater or less excavation; there is a loss of substance, which reduces it to an irregular shell; its walls are thin in some parts, and broken down in others, and are formed by an exceedingly vascular fungoid tissue. The osseous shell rises and falls under the fingers. More advanced, the shell is replaced by periosteum of considerable thickness, and undergoes a fibro-cartilaginous transformation. The internal face of these sacs are found irregular and uneven, and within them are fibrous clots, stratified, similar to those in old aneurisms. The trunks of the neighboring vessels remain sound, but those which penetrate into the interior of the bone, are considerably dilated."† In a case of pulsating tumor of bone, which occurred to Mr. Stanley of St. Bartholomew's Hospital, London (alluded to in his work on *Diseases of Bones*), originating in the ilium, and projecting from both surfaces of the bone, "It was found, upon examination, to be soft and spongy, having small cells dispersed through it, filled with blood. Bunches of convoluted vessels could be drawn out of this spongy substance, and the whole tumor, when macerated, was reduced to a tissue, resembling unravelled spleen, or placenta."

The erectile tissue in these cysts or sacs, frequently undergoes a cancerous degeneration, and is found, upon examination, interspersed with encephaloid deposit. A case of this kind is described by Mr. Lawrence, of London, in the *Medico Chirurgical Transactions*, vol. xvii.:—"A young man was the subject

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* *Bibliothèque du Médecin Praticien*, par FABRE.

† *Opus Cit.*

of a pulsating tumor in the head of the tibia; the limb was amputated, and, upon examination, the tibia was largely excavated, and the cavity filled with a material of soft, brain-like consistence, in which there were small deposits of coagulated blood." A very similar case is reported by Dr. A. Stillé, in the *American Journal of the Medical Sciences*, vol. xxv., p. 256, occurring in the same locality. In describing the morbid appearances of this tumor,—speaking particularly of its internal character—Dr. S. remarks:—"The matter within the cavity was chiefly composed of a soft solid, closely resembling a child's brain, that had been crushed by the fingers. It was a ruddy, or brownish color, and generally disposed around a number of central masses, or nuclei, which had, in some places, the character of yellow, semi-transparent coagula, and in others, of cerebriform matter, rather firmer than the more superficial portions of the tumor. Under the spot formerly occupied by the supposed aneurismal tumor, but within the bony parietes, was found a clot, of a buff color, lamellated in its structure, and firm under pressure. It was surrounded on every side by the prevailing brain-like matter of the cavity. A number of rounded apertures might be perceived on the surface of a section of the former portions of the tumor, but these walls were easily torn by the probe. No vessels could be distinctly traced within the tube; but streaks and small masses of blood were frequently to be met with. Professor Parker, of this city, recently had a case also of this description, seated in the os calcis of a gentleman, which rendered amputation necessary. On investigating the pathological condition of the tumor, he found "the bone expanded into a thin shell, the cancellated structure absorbed, and in its place, a material answering the character of carcinoma." Lastly, my own case furnishes a good illustration of this form of disease.

It is the opinion of some writers on this subject, and among them Professor Roux, of Paris, that aneurism of bone is but one stage of carcinoma; "that the aneurismal pouch is preceded by the formation of erectile or spongy tissue, which, in the progress of the disease, breaks down into an open cavity, and that, in its last stage of development, the erectile tissue is neither more nor less than cancer."

In describing the symptoms which mark the progress of this disease, I cannot do better than to transcribe the graphic account, found in *Ranking's Abstract* for the year 1845, under the report of surgery:—

"The tumor at first is scarcely perceptible, and may easily escape an attentive observer; but it soon increases, and presents the following characters:—It rises considerably above the surface. The skin which covers it is at first of a natural color, but after a while it assumes a rosy or violet tint. By its transparency, it allows numerous veins in the sub-cutaneous cellular tissue to be seen. Its base is lost in the neighboring soft parts, so that its limits are not readily defined: still, it may be ascertained by the touch, that it is continuous with the sub-adjacent bone. By the touch, also, it may be ascertained, that the tumefied part has a variable consistence, being soft and fluctuating in certain parts, and resisting in others; and on pressing the hardest points, a sensation may be felt, comparable with crackling of parchment, or the bruising of egg shells, produced by the osseous shell giving under the fingers. But the most characteristic symptom is pulsation, synchronous with the arterial pulse."

The progress of the disease is generally slow, being sometimes years before it acquires considerable volume.

Diagnosis.—From what has been said in reference to its anatomical characteristics and symptoms, it must be conceded that the diagnosis of the disease is by no means devoid of difficulty. The character of the pulsation, and the fact that it may be controlled by compression of the arterial trunk directed towards the tumor, has confounded it with ordinary aneurism; as in my case the tumor was, at its commencement, mistaken for aneurism of the posterior tibial artery.

It may also resemble encysted osseous tumors, until pulsation is perceived, which last sign, together with the thin osseous shell yielding and crepitating under the fingers, may be considered the only reliable symptoms in the diagnosis.

Aneurism of bone, and pulsating cancer of the same tissue, having so many symptoms in common, are often confounded. On this point a writer remarks:—"The same intimate connection with the bone, a similar crepitation, pulsation, and

fluctuation, renders it exceedingly difficult to distinguish cancer in bone from osseous aneurism. The lancinating pains which belong to cancer, may be absent in the former, and occur in the latter. An important sign, which alone suffices to prove an osseous aneurism, is the *complete* reduction of the tumor under pressure. The cancer yields a little, but more or less thickening remains, resisting the pressure. A cancerous tumor of bone has also a bruit de souffle accompanying the pulsation, which does not exist in osseous aneurism."* M. Nelaton alludes to the same sign, as a diagnostic mark of cancerous tumors of bone. It cannot be relied upon, however, with certainty, as the following cases will show. Mr. Stanley's case, cited above, was not cancerous, yet this bruit was heard. Mr. Stanley, closing his article on this subject, in his book on *Diseases of Bones*, mentions a remarkable case, as recorded by Cruveilhier, "in which numerous tumors, formed in different parts of the body, all strongly pulsating, and presenting, besides, a distinct bruit de souffle. They were developed in the same structure, being composed of cells of various sizes, divided by fibrous threads, and filled with blood." A case is also alluded to by South,† which occurs to the younger Lawrence, "in which a tumor in the right groin having gradually increased to the size of an egg, was then observed to pulsate, and after rapidly increasing, the pulsation became uniform over the whole tumor, and was accompanied by a distinct bruit. The patient died, and the tumor was found to consist of vessels intermixed with a gelatinous substance, the vessels forming more than half the tumor; they were about the size of sewing thread, and convoluted, and were directly continuous with the arterial system." On the other hand, in the case detailed by me, although decidedly encephaloid in its character, no bruit was heard during the several stages of its progress. In most instances, however, where the bruit de souffle has been heard, the cases have proved cancerous, as in Guthrie's case of tumor of nates,‡ Stillè, cited above, Parker, and others.

The rapid progress the disease generally makes before its

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* *Bibliothèque du Méd. Praticien*, par FABRE.

† CHELIUS, Surgery, vol. ii., p. 557. ‡ *Opus Cit.*

true character is discovered, the great destruction of the tissues involved, and the serious impairment of the functions of the part affected, together with the difficult and dangerous operations required for its cure, render the prognosis exceedingly unfavorable.

Treatment—With regard to the treatment, three modes have been proposed and practised; viz., Resection, Ligature, and Amputation when situated on the extremities. Resection has been performed in only two cases, neither of which was successful. The first was by Mr. Liston, 1819, referred to above, where he endeavored to remove a portion of the scapula, which was the seat of the disease, but was deterred from proceeding on account of the hemorrhage. The case is detailed in full by him in his *Elements of Surgery*, p. 159. The other was by a surgeon of Geneva. The disease occupied the parietal region of the left side of the cranium, the whole was removed, and the patient died a few days after. The particulars are not given, but reference is made to it by M. Roux, in the *Bulletin de l'Académie de Médicine de Paris*, 1844, (t. x. p. 386.) Dupuytren was the first to apply the ligature. "His case occurred just below the knee, at the inner side of the tibia, in a man aged 32. He tied the femoral, the pulsation ceased, and the tumor disappeared. Seven years after it returned and acquired a large size; he amputated and the patient recovered. It proved to be composed of numerous cysts, some filled with gelatinous matter, others with coagulated blood; a fine membrane lined these cysts, through which vessels were seen distributed in the form of a close network.'"*

Lallemand of France in 1826 tied the femoral for a pulsating tumor situated in the head of the tibia in a man aged 43.† M. Velpeau, also, tied the same artery, for a disease of this character, seated in the inferior extremity of the femur, and obtained only a partial success.‡

These cases were followed by two of M. Roux, one in which he put a ligature around the brachial for a pulsating tumor in the inferior extremity of the radius; the progress

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* *Bibliothèque du Méd. Praticien*, par FABRE. † Id. ‡ Id.

of the disease, however, was arrested for a few weeks only, and he was obliged to resort to amputation. It was found to be complicated with cancer. The other was seated in the lower end of the tibia, and immediately after the deligation of the femoral, the pulsation ceased and the tumor diminished. The result was satisfactory.*

Nelaton observes, "that although these cases were not all satisfactory, they justify the application of the ligature, before resorting to amputation. This gentleman also tied the femoral for a pulsating tumor of the internal condyle of the femur, the result of which I know not. In England Mr. Guthrie ligated the common iliac for pulsating tumor of the nates, as large as a child's head. The tumor diminished one-half, but returned in five months, and patient died."† Stanley, in case cited above, applied a ligature to the same vessel for his tumor of the ilium with a like result. Mr. Luke of the London Hospital put a ligature around the femoral for this disease, occupying a part of the femur, which had been twice fractured. It returned and the limb was amputated.‡ In the *Medical Gazette* for May 27th, 1842, a case of this description is reported by Mr. Hargreaves, which was placed at the lower end of the femur and in which the femoral artery was tied, "previous to the operation the tumor attained a large size, measuring 24 inches around the knee-joint. The pulsation could not always be felt, and there was no bruit. Three weeks after the operation the patient died." The morbid appearances presented by the tumor did not differ materially from many of the cases cited above. It was not considered malignant. A very similar case is detailed in BRAITHWAITE'S *Retrospect*, No. xiii., 1846, by T. P. Teale, Esq., of the Leeds General Infirmary; seated in the same locality, and the same treatment adopted. Its growth was arrested for one month, amputation proposed, but declined, and patient died. Prof. Carnochan, of this city, lately tied the femoral for a pulsating tumor occupying the the internal condyle of the femur of a woman. The disease returned and he was obliged to amputate. The patient

* SOUTH'S CHELIUS, vol. ii. p. 557. † Id. ‡ Id.

is still living. Lastly, in my own case, the femoral was ligatured, followed by no good results, and then amputation resorted to. My patient is doing well.

It will be observed that in nearly all the cases noticed above, ligation of the artery supplying the tumor was first practised, and amputation following, was in many instances successful; from which we conclude that amputation is the only proper remedy, and ought to be early resorted to.

Mr. Crisp, in his work on the arteries, makes a melancholy statement with regard to the mortality in this malady. He says, "of 25 cases recorded 5 were cured by operation, 1 was benefited, 5 died after amputation, 5 after ligature of main artery, 3 after ligature and amputation, 4 without operation, and in 2 the result was not known."

ART. II.—*A Case of Fracture of the Processus Dentatus, in which the Patient continued to follow an active occupation: suddenly terminating fatally, five months after the Accident.* By WILLARD PARKER, M. D., Professor of Surgery in the College of Physicians and Surgeons, New-York.

THE following very remarkable case was communicated to me by Dr. Bigelow, in whose practice it occurred, and at the autopsy of which I was present by his invitation. As it is one of much interest in practical surgery, proving beyond a question that the complete fracturing off of the odontoid process is not immediately fatal, it cannot better subserve the profession than by publication.

The patient, Mr. G. B. Spencer, was a man forty years of age, a milkman by occupation, of medium height, nervo-sanguine temperament, of active business habits, and capable of great endurance. His life was one of constant excitement, and he was addicted to the free use of liquors. He suffered, however, from no other form of disease than occasional attacks of rheumatism, for which he was accustomed to take remedies of his own prescribing, which were generally mercurials, followed by liberal doses of the iodide of potassium, "to work it all out of the system."

On the 12th of August, 1852, while driving a "fast horse" at the top of his speed on the plank-road near Bushwick, L. I., he was thrown violently from his carriage by the wheel striking against the toll-gate. He alighted upon his head and face, about fifteen feet from the carriage. Upon rising to his feet he declared himself uninjured, but soon after complained of feeling faint: after drinking a glass of brandy, he felt better, got into his carriage with a friend, and drove home to Rivington-street in this city, a distance of more than two miles. There was so little apparent danger in his case that no physician was called that night. Early on the morning of the following day, Dr. B. was called to visit him. He found his patient reclining in his chair, in a restless state, and learned that he had suffered considerable pain in the back part of his head and neck during the night. He was entirely incapacitated to rotate the head, which led to the suspicion of some injury to the articulations of the upper cervical vertebræ; but so great a degree of swelling existed about the neck, as to prevent an efficient examination. There was no paralysis of any portion of the body, his pulse was about 90, and his general system but little disturbed. Warm fomentations were applied to the neck, and a mild cathartic administered. On the following day there was no particular change in his symptoms, but as there existed considerable nervous irritability, tinct. hyosciami was prescribed as an anodyne, and fomentations of hops applied locally. On the third day leeches were applied to the neck, and after this the swelling so much subsided, that on the fifth day an irregularity was discovered to exist in the region of the axis and atlas, which had many of the features of a partial luxation of these vertebræ.

At this time he began to walk about the room, having previously remained quiet on account of the pain he suffered on moving. He persisted in helping himself, and almost constantly supported his head with one hand applied to the occiput. He often remarked, if he could be relieved of the pain in his head and neck he should feel well. He began to relish his food, and the swelling nearly disappeared, at the end of a week, leaving a protuberance just below the base of the occiput, to the left of the central line of the spinal column, with

a corresponding indentation. Notwithstanding strict orders to remain quietly at home, on the ninth day after the accident he rode out, and in a day or two after returned as actively as ever to his former occupation of distributing milk throughout the city to his old customers. During the following four months no material change took place in his symptoms, although he constantly complained of pain in his head. For this period he did not omit a single day his round of duties as a milkman, which occupied him constantly and actively from five o'clock in the morning to nearly noon. On the 1st of November Prof. Watts examined him, and inclined to the opinion that there was a luxation of the upper cervical vertebræ.

About the 1st of January, 1853, the pains, from which he had been almost constantly a sufferer, became more severe, and he was heard to complain that he could not live in his present condition: he remarked also that he had heard a snapping in his neck. After going his daily round on the 11th of January, he complained of feeling cold, and afterwards of a numbness in his limbs. In the evening he had a chill and complained of pain in his bowels. He passed a restless night and arose on the following morning about six o'clock; he was obliged to have assistance in dressing himself, and experienced a numbness of his left, and afterwards of his right side. He attempted to walk, but could not without help, and it was observed that he dragged his feet. He sat down in a chair and almost instantly expired at eight o'clock A. M. on the 12th of January, precisely five months from the receipt of the injury.

The autopsy was made thirty hours after death, by Dr. C. E. Isaacs, in presence of several medical gentlemen.

Muscular development uncommonly fine; an unusual prominence observed in the region of the axis and atlas. On making an incision from the occiput along the spines of the cervical vertebræ, the parts were found to be very vascular. These vertebræ were removed *en masse*, and a careful examination instituted. The transverse, the odontoid (ligamenta moderatoria), as also all the ligaments of this region, excepting the occipito-axoideum, were in a state of perfect integrity; this

latter was partially destroyed. A considerable amount of coagulated blood was found effused between the fractured surfaces, some of it apparently recent, but much of it was thought to have occurred at the time of the accident, and afterwards to have prevented the union of the bones. The spinal cord exhibited no appearances of any lesion. The odontoid process was found in the position well represented in the accompanying illustration, completely fractured off, and its lower extremity inclining backwards towards the cord. Death finally took place, doubtless, from the displacement of the process, during some unfortunate movement of the head, by which pressure was made upon the cord. The destruction of the occipito-axoid ligament, which would otherwise have protected the contents of the spinal cavity, must have favored this result.

A Fractured surface of the vertebra
B Odontoid process broken off.

It would at first seem impossible that life could be prolonged, at least for any length of time, in an accident of this nature. And such was the prevailing opinion until recently. If, however, we reflect upon the anatomy of this region, and consider that the only lesion was a fracture of the odontoid process, the contiguous vertebræ remaining nearly in their natural relations, and the ligaments maintaining their integrity, our first impressions will change. As it is the office of this process to steady the head upon the trunk, that function can be equally well performed externally by the hands, as was done in this case and others to which we shall allude. But yet it is remarkable that a person suffering this accident, should be able, for such a length of time to follow, actively and unremittingly, a rough occupation with little or no inconvenience. He was liable to death from the most trivial accident.

There are but few similar cases on record. The following case occurred to Mr. Cline. (COOPER, *on Fractures and Dislocations.*) A boy about three years of age, from a severe fall, injured his neck, and the following symptoms succeeding the accident, Mr. Cline was consulted.

He was obliged to walk carefully upright, as persons do when carrying a weight on the head; and when he wished to examine any object beneath him, he supported his chin upon his hands, and gradually lowered his head, to enable him to direct his eyes downwards; but, if the object was above him, he placed both his hands upon the back of his head, and very gradually raised it, until his eyes caught the point he wished to see. If, in playing with other children, they ran against him, it produced a shock which caused great pain, and he was obliged to support his chin with his hand, and to go immediately to a table, upon which he placed his elbows, and he remained thus supporting his head a considerable time, until the effects of concussion had ceased. He died twelve months after the accident. Mr. Cline "found the first vertebra of the neck broken across, so that the dentiform process of the second vertebra had so far lost its support, that under the different inclinations of the head, it required great care to prevent the spinal marrow from being compressed by it; and, as he could not depend upon the actions of the muscles of the neck, he therefore used his hands to support his head during its different motions and positions."

The same authority mentions another instance, where this process was fractured, without violence, in a patient under treatment for a syphilitic affection.

A case is reported in the *Medico-Chirurg. Trans.*, vol. xx., by Mr. B. Phillips, which presents many points of analogy with the above.

William Cross, a farmer, slipped from a hay-rick, and fell to the ground, head foremost, the occiput coming in contact with the soil. He was "stunned" by the fall, but the concussion thus produced was soon sufficiently dissipated to allow of his walking a distance of half a mile, to the residence of the parish surgeon, by whom he was bled and purged. On the following day he felt scarcely any inconvenience from the accident, and in two days more he proceeded about his usual business. From the day succeeding the accident, he felt what he termed, and what really was, a "stiff neck," for he was unable to rotate the head. This "stiffness" was all he complained of when I first saw him, which was between three

weeks and a month from the occurrence of the accident, and on that day he had walked above two miles.

He was a powerful, scrofulous-looking man of thirty-two, but he said that his health had been usually good. On examination, the back of his neck was, he stated, the seat of the only uneasiness, and that inconsiderable. Immediately over the second cervical vertebra, a small tumor was apparent; pressure upon it occasioned only a very little pain. All the functions of the economy, with the exception of the inability to rotate the head, were well performed, and I was not able to detect any other lesion of motion or sensation. He stated that up to the receipt of the injury, rotation of the head had been in no wise impeded; the diagnosis was, that morbid action had been excited by the accident, and a chronic inflammation, of a scrofulous character, was developed in the first or second cervical vertebra, or perhaps in both, threatening false anchylosis. He was directed to lie upon a mattress, without a pillow, and twelve leeches were applied to the affected region every third day. No particular benefit being derived from this treatment, an issue was made over the same point, which continued to discharge three months, but the symptoms remaining unchanged, it was allowed to dry up. About five weeks from this time a second issue was applied; soon after, he was observed to have a *thickness* of the voice, as if from enlarged tonsils; the tonsils were large, but not from recent disease. In a few days he complained of difficulty in swallowing, and on examining the throat, a slight projection at the back of the pharynx was noticed, as near as may be at the level of the body of the second cervical vertebra.

He now had an attack of pleuritis, from which he recovered, though much debilitated. At the end of nine weeks from the accident, symptoms of anasarca were manifested, and the infiltration shortly became general, affecting more particularly the lower extremities. He remained in this condition until the forty-seventh week from the injury, when he died from hydrothorax. Up to the last week of his life, he was accustomed to walk to the water-closet, which was on the same floor with his bed, and was never assisted in taking food, even though lying on his back; and no evidence was ever

afforded to those around him, that motion or sensation, with the exception already mentioned, was in the slightest degree impaired, neither had the difficulty of swallowing materially increased.

Mr. Phillips thus comments on the case, in connection with the post mortem appearances:—"In the present case, not only was there fracture and great displacement of the atlas, but a fracture and displacement of the processus dentatus, without any material disturbance of the functions of the economy. The blow was received upon the postero-superior surface of the occiput, the impetus was directed obliquely downwards and forwards in the course of a line, drawn from that point, as nearly as may be through the occipito-atloidal articulation. A portion of this ring of the atlas, immediately posterior to the articulating surfaces, is comparatively unsupported; this portion gave way, and the anterior portion was propelled downwards and forwards, between the axis and the pharynx, the posterior portion remaining as nearly as may be in situ. The body of the atlas being thus displaced, one of two things was necessary; either that the odontoid process should be fractured, or that the transverse ligament, by which it is attached to the atlas, should be ruptured; in this case the former contingency obtained, and to this circumstance the patient owed his life."

Mr. Phillips alludes to another case, in which the anterior portions of the atlas and axis were affected with caries. The odontoid process was broken off, but as no symptoms were produced which would indicate such accident, he thinks it more probable that the fracture occurred in the examination after death.

There are several points of interest connected with these cases. The *first* is the nature of the accident. In the present case, the force was applied to the anterior portion of the head, and the odontoid was consequently brought forcibly in contact with the anterior ring of the atlas, and yielded to the violence. In Mr. Phillips's case, on the contrary, the force was applied on the posterior part of the head, and the odontoid was brought in contact with the transverse ligament; the former fortunately proved the weaker. The *second* is the

symptoms peculiar to two of these cases; that is, supporting the head in its various movements, with the hands. And *third*, this symptom proves the office which the odontoid process performs, that, namely, of steadying the head upon the vertebral column. And *finally*, in the language of Mr. Phillips, they are examples "of the extent of injury which may be experienced by this portion of the spinal column, without harm to the important organ whose natural protector it is, or even to the economy; and as a reason for rescinding the dicta that 'a fracture of the processus dentatus proves instantly fatal,' and 'that a fracture of the cervical vertebræ (above the third), with considerable displacement, is almost immediately fatal.'"

ART. III.—*A case of Strangulation of Intestine by old false Membrane —terminating fatally in Rupture of the Distended Portion on third day; with remarks.* By ELISHA HARRIS, M. D., Physician to the N. Y. City Dispensary.

FEBRUARY 1st, at 4 P. M. I was called to see Mrs. C. A. S., who was said to be suffering from a severe attack of bilious colic: I found her vomiting, and in excruciating agony, presenting the usual symptoms of strangulated hernia. She referred her suffering principally to the epigastrium, lay upon her left side, with her limbs flexed upon the pelvis, and was unwilling to move from that position; tongue, clean; pulse, 70, soft and feeble; surface cool and moist; features corrugated and anxious. She was twenty-five years of age, had been five years married, had aborted several times, last abortion two years ago, and had for the last year menstruated regularly, was just recovering from a free and somewhat painful menstruation; she seemed to be a lady of good habits and full health; had never suffered from hernia, nor could I discover any. The husband said that she was subject to "such attacks of colic."

To afford temporary relief from the excruciating agony she was enduring, I prescribed the topical application of chloroform over the abdomen; half an ounce was applied on a cloth and covered with flannel; this so effectually alleviated

her suffering that she soon fell asleep. I then examined the abdomen and the inguinal regions very carefully; found no signs of hernia, but in the left side of the abdominal cavity I discovered a well-defined and large tumefaction extending from the left iliac region upwards about eight inches. This tumor was somewhat resonant in its upper portion, but inferiorly it was quite dense and resisting; the inferior portion seemed to be quite firmly confined *in situ*, while the superior portion was to a certain extent movable. The abdominal cavity was not unnaturally distended, nor unusually resonant, nor dull on percussion; the left side of the abdomen was excessively painful on pressure on percussion.

The patient's previous history had been briefly as follows. She had always enjoyed excellent health until after her marriage, five years ago; had within the last four years been thrice pregnant, and had as often aborted at about the sixth month. Since her death I have learned that these abortions were induced by violent measures, with the advice and by the hands and instruments of a certain "female physician and accoucheur from Paris and London." At her last abortion, two years since, she suffered greatly, and subsequently became the victim of metro-peritonitis, from which she was not expected to recover. The peritonitis became general and chronic, the abdomen was then enormously distended, and from the fifth to the eighth week of the disease, her bowels were completely obstructed. During this long period there was an increasing tumor, which was first observed in the left iliac region, and which gradually extended upwards. I learn that the physician then in attendance attempted to open this tumefaction with a bistoury, and that a day or two subsequently to that vain attempt, she had her first evacuation from the bowels; the friends assert that not less than eight or ten gallons of fæces and putrid matter passed in the space of forty-eight hours. The physician said much of it was pus. After this event she rapidly recovered, and during the last eighteen months has enjoyed excellent health, with the exception of frequent attacks of "colicky pain," and constantly increasing trouble from constipation; she had taken no medicine during this period; had menstruated freely and regu-

larly, but had not been pregnant, and she had suffered much from dysmenorrhœa.

From this very full and interesting history of the case, and from the existing symptoms, I felt warranted in concluding that the diagnosis lay with great certainty between *strangulation* of some portion of intestine above the left iliac region, and possible *intussusception*. The latter event was not necessarily excluded, but I considered that the history of the patient rendered it almost certain that the difficulty arose from strangulation by bands or plates of old false membrane. To the husband and family physician I expressed this as my opinion, and as I had entire control of the case, I directed my treatment accordingly. In the treatment of the case I determined not to give any drastic purgatives. I administered laudanum and hyoscyamus in camphor mixture, sufficient to keep her somnolent, ordered copious enemas of a decoction of hops; some scybalæ were evacuated. I made an explorative examination of the rectum and sigmoid flexure of the colon with a long bougie, but discovered nothing of the seat of stricture. I left her at 11 o'clock that evening, fully under the influence of anodynes. I observed that while sleeping she hickuped. My notes of the case on Wednesday, the second day, are as follows: "She slept most of last night, was aroused several times by severe pains, and vomited a green fluid. She continues in the same condition she was in last evening; the pulse is quicker, tumefaction from the distended bowel on the left side somewhat augmented, but the abdomen appears otherwise normal. At the earnest solicitation of the friends to prescribe a purgative I have administered Rochelle salts in camphor mixture, laudanum and anise, but assured the family that cathartics will probably hasten her death. I have allowed them to administer warm enemas *ad libitum*. She has not suffered so much from pain to-day, but has vomited and hickuped more than yesterday; she has been able to get up and down without assistance during the day; the abdominal tenderness has increased, hickup continues. At ten this evening I left her sleeping. She seems more feeble, pulse 100, quick and feeble."

About two hours after I had left her on Wednesday evening, I was called in great haste to see her. Just before midnight she was aroused from her sleep by pain, which, until this time, had been somewhat periodic in its character; she vomited as usual, got off from the bed without assistance, and attempted a forced alvine evacuation, and while straining at stool she felt something burst within her abdomen, and suddenly exclaimed, "Something inside has given away," and immediately she fell back, and was laid upon the bed in a state of collapse. I saw her in less than half an hour, found her completely pulseless, cold, and in a clammy sweat. She was perfectly conscious, and could articulate in a low whisper. I examined the abdomen, and found that extensive extravasation of gas and semi-fluid matter had occurred into the cavity of the peritoneum; the abdomen was greatly distended, elastic, and resonant, and upon palpation and change of position, there was abundant evidence of the fæcal extravasation. This change in the condition of the patient, and in the state of her abdomen, had occurred suddenly, and unquestionably the distended intestine ruptured above the point of strangulation, at the moment she felt the peculiar sensation described, at the time she was making the forced effort at alvine evacuation.

Stimulants were freely administered, but they failed to secure any considerable reaction; she continued pulseless and cold, vomited frequently and profusely, discharging the contents of the stomach with fresh green bile. She became very thirsty, and desired cold drinks. She continued in a collapsed condition, without any material change of symptoms, until 6, P. M., when she died without agony.

Autopsy, 21 *hours after death.*—A sanguinolent fluid was discharging profusely from the mouth and nostrils, the abdomen was immensely distended, and its walls crepitated with gas; the abdominal and pelvic organs only examined. On opening the cavity of the peritoneum, a large amount of gas issued with considerable force; there were several quarts of sanguinolent, serous, and fluid fæcal matter filling the cavity; in the left iliac region, a large, dark-colored knuckle of intestine presented, which proved to be the strangulated portion of bowel. Upon examination, this strangulated section was

found to be situated in the ileum, about two feet from its cæcal termination; the knuckle incarcerated measured about sixteen inches. The cause of strangulation was very apparent; the knuckle of intestine, at the point of strangulation, was found to be tightly bound down to the mesentery by a firm, narrow band, or cord, of old false membrane, about one and three-quarters inches in length, and which was firmly attached at its extremities to the mesentery, thus forming, when expanded, an annular space something more than an inch in diameter, through which the knuckle of intestine had passed, carrying with it, of course, the fan-like expansion of mesentery to which it was normally adherent. The mesentery had been thus dragged through the annular space mentioned, until with the intestine involved, its folds alone had filled that space to its utmost capacity. Thus the passage of the mesentery following the incarcerated knuckle of intestine, was the immediate cause of the strangulation that had occurred. Besides this, one extremity of the strangulating band had, by the passage of the mesentery, been drawn through the aperture, and thus had become twisted on itself and on the strangulated neck of intestine and mesentery, thus rendering the work of death doubly sure. The strangulated knuckle of intestine was distended with fluid fæcal matter, and the ileum, for two or three feet above the point of strangulation, appeared to have been greatly and permanently distended; its calibre was more than thrice its normal dimensions; it contained some gas and fæces. At a point about three inches above the place of strangulation was found a rupture in the bowel, through which the contents of the distended ileum had been extravasated into the peritoneal cavity.

In every part of the abdominal cavity were found dense bands and plates of false membrane; the omentum was agglutinated to the pelvic walls, and to the intestines, and it was covered with tape-like bands of false membrane, extending from the pelvis to the transverse colon, to which the omentum was firmly adherent. Upon the surface of the mesentery were seen numerous bands and patches of false membrane, and in many places folds of intestine were adherent to it and to the abdominal parietes. The pelvic organs were found to be

firmly bound together in a mass of fibrinous deposit; plates and bands of these deposits filled up the cavity, firmly agglutinating the organs to the pelvic walls. The bladder was high up, and comparatively free from adhesions about its fundus; the ovaries and the fallopian tubes were utterly buried in a mass of fibrinous deposit, so as entirely to prohibit fecundation. The ovaries were large, soft, and had a mottled appearance; the uterus and the bladder were of normal dimensions and appearance; the upper portion of the rectum was enclosed in a dense mass of fibrine, which, by induration, had nearly occluded that portion of the intestinal canal, and extending upwards from this point into the left iliac region, were dense deposits of false membrane in bands and masses. There had probably been an iliac or pelvic abscess in this region, which had opened into the rectum, but we could not determine this point by the appearance of the parts. The peritoneum was every where injected from the extravasated matters; the abdominal viscera in themselves appeared healthy. On the strangulated knuckle of intestine there was recently effused fibrine, and some strings and threads of false membrane.

Remarks.—The deep interest that every physician must feel in an event of so grave a character, a form of disease so occult in its history, so difficult in diagnosis, and so fatal as such cases of intestinal strangulation, and which are liable to occur at any time in the practice of every medical man, will justify the following brief references to the pathological history of Internal Strangulation of the Intestines, and to the recorded experience of the profession in their diagnosis and treatment.

The most concise account of the pathological history and causes of this form of intestinal strangulation, is given by Rokitansky (*Path. Anatomy; Art. Abnormites of the Intestines. Sydenham Society Edition*). He says, "Pseudo membraneous formations, as the result of previous exudation process in the shape of cellular or ligamentous cords, bands, or plates, which pass from one part of the intestine or mesentery to another, from the intestine to the abdominal parietes, the omentum, or an organ of the abdominal and pelvic cavity, or from one of those to the abdominal and pelvic cavity, or from one of these

to the abdominal parietes, or between the organs themselves. It is most frequently a portion of the small intestine which is incarcerated in these strictures; only the more movable portions of the colon, the cæcum, and the sigmoid flexure are likely to become involved. These varieties of incarceration are very common, and as compared with others, the most frequent. They occur in every period of life. The female sex is more prone to them than the male, as the omentum, the diverticula that may be present, and pseudo-membraneous formations are not only frequently attached to the internal sexual organs of the female, but the latter are themselves liable to give rise to new growths.

The consequence of internal hernia, is a distension of the intestine above the compressed or strangulated portion, peritoneal inflammation, paralysis, and ilius; the incarcerated portion in hernia, of this variety (genuine incarceration in various annular spaces or fissures) is, from the strangulation of its mesenteric vessels, peculiarly liable to congestion and gangrene. The affection when diagnosed most imperatively requires an operative proceeding, for the purpose of disentangling and arranging the intestines, and for division of the strangulating strictures, with or without the knife."

Until quite recently the recorded observations and experience of the profession in relation to this subject, have been exceedingly meagre and unsatisfactory; but within the last five years this form of intestinal abnormity has received considerable attention, particularly in the records of British practice. About one hundred years ago, Hevin, a French surgeon, prepared a valuable Memoir, which, with the Thesis of Manoury and Bonnet, together with brief references given in systematic works, constituted the principal authority on the subject of internal intestinal strangulation, until the appearance of Mr. Benjamin Phillips's paper in the *Medico-Chirurg. Transact.*, 1848,* in which he has given a very elaborate and complete resumé of the subject, based upon the histories of a

* *Observations on Intestinal Obstructions depending on Internal Causes; and on the Means to be employed for their Relief.* By BENJAMIN PHILLIPS, F. R. S. *Medico-Chirurg. Transact.*, vol. xxxi.

hundred and sixty-nine cases of internal intestinal obstruction; cases of imperforate anus and ordinary rectal stricture being excluded; and he has deduced many important principles in reference to the diagnosis and treatment of such cases. Since the appearance of Mr. Phillips's valuable paper, the experience of the profession on this subject, in Great Britain at least, has been very fully recorded.

In connection with the more recent recorded observations on this subject, there have been several papers of a highly practical character, with special reference to the propriety and the mode of attempting surgical relief in these cases, the indications for, and the results of such heroic surgery. The papers of Mr. Luke, Mr. Hilton and Dr. Golding Bird, Dr. Crisp, Mr. Robinson, and Mr. Cæsar Hawkins, are particularly valuable. Though Mr. Hawkins's paper was prepared with special reference to the propriety and results of operation for stricture of the colon and the formation of artificial anus, it necessarily refers to the general and particular results of gastrotomy for the relief of every form of internal intestinal obstruction. We shall have occasion, therefore, to refer to the valuable statistics and deductions given in Mr. Hawkins's paper. (*Medico-Chirurg. Transact.*, vol. xxxv.)

In the records of American practice there are but few references to the form of intestinal incarceration in question, though there are a few highly instructive cases recorded in some of our medical journals, in which this form of internal strangulation has been recognized after death.*

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* In the Anatomical Museum of the Boston Society for Medical Improvement, are the following specimens, illustrative of the form of intestinal strangulation, under consideration.

Specimen 494. Strangulation of the intestine by a band of false membrane. A small, rounded dense band of false membrane, apparently less than an inch in length, attached to one extremity, nearly over the cæcal valve, and by the other to the ileum, two feet from its termination, the intestine to this extent having passed beneath it and been girt so tightly that now in the preparation the band is nearly buried. Patient, a young lady æt. 19. Attacked with vomiting; pain not urgent; abdomen not tense; no tumor. Died on the third day.

Specimen 495. Band passing from the small intestine to right ovary, and has strangulated two small folds or knuckles of intestine.

But we do not design here to discuss the question of treatment. Let us first consider the leading points connected with the proximate causes, the symptoms, diagnosis, prognosis, causes of death, &c.

Causes.—Concerning the causes, Dr. Robinson remarks that, "although contraction of the bowels and formation of bands, etc. are the *real* cause of obstruction, they are not the *sole cause:* for, in many cases, there is reason to believe that they had been in existence *some time before* the serious interruption to the canal took place: other causes must therefore exist to bring them into operation, and these are, for the most part, sudden and violent exercise, and errors in the quantity or quality of the food."

In the case we have related, it seems highly probable that the incarcerated knuckle of intestine had for a long time remained behind the band of false membrane by which it was ultimately strangulated, indeed it is quite possible that this band of false membrane was first formed over the intestine and adherent to its peritoneal surface, and that by the expansion and weight of the incarcerated portion, together with the natural peristaltic movements, the intestine became entirely detached, and then either gradually or suddenly, the intestine and its mesentery, were crowded still further under the band, until strangulation occurred. Neither violent exercise nor improper ingesta would have been indispensable to such a result, though they might hasten it; and, in this case, it is highly probable that improper diet and exercise acted as proximate causes of the fatal event. But in cases like this, in which the strangulation depends upon bands of false membrane, the incarceration may, and often does, occur suddenly, or more gradually, and without any unusual cause; so also in those cases in which incarceration occurs, through apertures in the omen-

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Specimens 496, 497, 498, and 499, exhibit strangulation by adherent diverticula, and the appendix cæci.

The details of several interesting cases of internal strangulation may be found in Dr. Abercrombie's excellent treatise on Diseases of the Stomach and the Intestines. *Vide Op., Art. Ileus.* Cases, xxxii, xxxiii, xxxvi, xxxvii, and xxxviii.

tum or the mesentery;* or by interlooping between the intestines themselves.

There are some very remarkable cases on record, in which a portion of intestine has rotated upon itself in its longitudinal axis, and thus induced complete obstruction and strangulation. The lamented death of the Hon. Hugh S. Legaré was caused in this manner, the descending colon having rotated upon itself at the point of its sigmoid flexure. (*Am. Jour. Med. Sci., N. S.*, vol. vii.) There are also cases recorded in which strangulation has occurred from rotation of a portion of intestine round an axis formed of mesentery, and also where a portion of intestine formed an axis, round which another large portion with its mesentery turned, so as to touch the periphery of the axis at every point.

Another, and much rarer form of intestinal strangulation may occur from pressure exerted upon a piece of intestine by another portion of intestine or its mesentery, so as to compress it against the walls of the abdomen.

Altogether the most frequent cause of internal intestinal obstruction, however, and that which has most frequently led to operative proceedings for its relief, is that which results from morbid growths or contraction within, or upon a narrow section of the intestinal tract, thus causing complete or partial occlusion of the canal. This was the cause of stricture in forty-two of the forty-eight cases given by Mr. Hawkins, in which the formation of an artificial anus was attempted. In this class of cases, the previous history of the patient, together with the gradual onset of urgent symptoms, may afford some indications of the nature of the pathological lesion; but in a considerable number even of these cases, it has been found impossible to establish a satisfactory differential diagnosis from cases of real strangulation, or of intussusception. Obturator hernia, and ex-

* That form of intestinal strangulation that occurs from the passage of a portion of the bowels through fissures, etc., in the mesentery or the omentum, is well illustrated in an interesting case recently reported by Dr. Metcalf, of this city. Forty-one inches of the colon, and two loops of small intestine were strangulated by passing through "an old opening, two inches in diameter in the mesentery, near its attached border." (*N. Y. Med. Times*, vol. ii., No 5.)

ternal hernia that may have been returned *en masse*, may present the same symptoms, and possess the same apparent history as the forms of strangulation from false membrane, etc. It is important, that the physician take these various causes into consideration in the determination of his diagnosis and treatment of a case presenting the symptoms of intestinal strangulation.

Symptoms.—On this subject, Mr. Phillips remarks, that "no matter what may be the cause of the obstruction, no certain remarkable difference is observed in the more prominent symptoms by which it is accompanied. Thus constipation, abdominal pain or uneasiness, with tension and sickness of the stomach, are present in greater or less intensity, in most cases, but there is no certain and definite line to be drawn, either as to the time at which they occur, or the severity with which they are ushered in." The premonitory symptoms are by no means uniform nor pathognomonic. The actual symptoms are usually well marked, but they are by no means diagnostic in all cases. *Pain.*—Respecting this symptom, Mr. Luke, in his excellent report, remarks:—"Little information is generally to be derived from this symptom, which will serve the purposes of diagnosis. In some cases it is a severe attendant upon obstruction; in others it is absent, or exists in a slight degree only. *When present, it is not usually referred to the seat of obstruction*, but to some other and distant part." In five cases of obstruction at the sigmoid flexure of the colon, the pain was referred to the umbilical region; in the case we have recorded, it was referred to the epigastrium, and the same has been observed in many other urgent cases. Whatever may be the form, and wherever the seat of severe intestinal lesion, we may rationally expect the pain to be referred to the vicinity of the great nervous centres of the abdomen. The premonitory pains, however, are frequently referred to the exact seat of the lesion, and in case of an attempt at operative relief, this point should be carefully ascertained. Cases have occurred in which there were no premonitory pains; but in most instances there has, at some period preceding the urgent symptoms, been more or less complaint from a well localized point of extreme tenderness, very near the exact seat of the lesion. In the case we have recorded, this symptom

had been particularly obvious for more than a week. *Constipation.*—In almost every recorded case, obstinate constipation has been the earliest and the most prominent symptom observed; but this symptom is of no great value, and in the treatment of these cases, it has certainly received too great attention. *Hiccup.*—This cannot be considered a symptom, though it has been present in several cases, and was almost constant during the whole progress of the case we have recorded. *Vomiting.*—This is a constant and marked symptom of every form of intestinal strangulation, but in no form of obstruction is it a more prominent symptom than in *intussusception.* In most cases of strangulation, and of *intussusception*, the vomiting has been stercoraceous. *Abdominal distention.*—This does not necessarily occur, though it has been observed in most cases. *Urine.*—It has been said that strangulation of the *small* intestines is marked by great diminution of this secretion;* but in our case, it will be observed that the secretion of urine was abundant; probably because there was no general peritonitis, in which a marked diminution of this secretion is uniformly observed.

A tumor of distended intestine.—In most cases of intestinal obstruction, a portion of greatly distended bowel has been discovered. This should be very carefully sought and examined at an early period, before abdominal distention occurs. Its exact position and limits are of primary importance in case of an operative procedure.

Diagnosis.—Mr. Phillips concludes, as the result of his observation and study, that "the diagnosis of the *existence* of an

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* In the Guy's Hospital Reports, vol. ii., N. S., p. 396, Dr. Barlow attempts to demonstrate, from a series of observations, that the position of an obstruction in the bowels may be accurately known by observing the relative amount of the urinary secretion. He says, "when there existed a perfect obstruction in the upper part of the *small intestines*, there was almost total suppression of urine; and when the small intestines were free, and the obstruction seated in the *colon*, the urine was abundant." In our examination of the records of cases of intestinal obstructions, we have become satisfied that this variability in the *amount* of the urinary secretion depends invariably upon the absence, presence, or the degree of peritoneal inflammation that may exist in the cases of obstruction.

obstruction is usually not difficult, but, that the diagnosis of the *seat* of the obstruction is, in most cases, most uncertain and unsatisfactory." He remarks that, "beyond the general history of the case, the most probable means of ascertaining the seat of the obstacle is, to follow carefully the distended intestine up to the point of obstruction."

From the symptoms alone, it would be manifestly impossible to determine the exact situation of the point of strangulation, much more to establish a satisfactory differential diagnosis of the real cause of the intestinal obstruction. In determining the probable nature and *seat* of obstruction, important aid may be afforded by the previous pathological history of the patient, as in the instance we have reported. In cases like this, in which there has been such clear evidence of previous peritonitis and morbid adhesions, the probability of intestinal incarceration by bands, plates, or cords of false membrane is rendered exceedingly strong. Yet, even in such cases, it must be impossible to determine with absolute certainty whether the obstruction has occurred from actual strangulation beneath bands, &c., or from intussusception, morbid growths and constriction within and upon the intestine, hernia through the mesentery, &c.

Prognosis. Thus far the records of cases of internal intestinal strangulation, exhibit a uniformly fatal termination. Cases of stricture of the large intestines exhibit more favorable results; though a very large majority of these prove fatal, whatever the means adopted for their relief. In the 169 cases of stricture, strangulation, etc., collected by Mr. Phillips, 133 terminated fatally; and it is highly probable that nearly all the remaining 36 cases did really terminate fatally; for, in the 48 cases of obstruction of the colon, carefully collected by Mr. Hawkins, only *two* survived two years, though the whole number had received the full *benefit of surgery.*

In cases of *intussusception*, the event has occasionally proved more favorable, as there are many interesting cases on record, in which the invaginated portion of intestine has passed *per vias naturales*, after union had taken place between the approximated portions of sound intestine. There is abundant evidence, also, that in many cases the intussuscepted intestine

has often been restored to its normal position, when nature's efforts have not been too much interfered with by medication.

We recollect in our reading to have met with the account of several cases, in which portions of intestine have been passed *per anum*, after previous symptoms of intussusception; and Professor Van Buren, of this city, recently presented to the *N. Y. Pathological Society* a remarkable case of this kind, in which about *five feet* of intestine had been passed *per anum*, after symptoms of intussusception, followed by complete recovery of the patient.*

Cause of death.—In most of the cases recorded, the patients have died from exhaustion. In some, it was manifestly hastened by operative proceedings; and in three instances, the immediate cause of death was rupture of the distended bowel, and consequent extravasation into the cavity of the peritoneum, as in the case we have recorded.

Frequency of internal intestinal obstruction.—In 2,392 cadaveric inspections, by Messrs. Hewitt, Boyd, Paget, and Louis, twenty two instances of intestinal obstruction were found as the cause of death, which is nearly one per cent. of the cases examined. It is highly probable that some of the cases reported in our mortuary registers as death from volvulus, ileus, bilious colic, etc., have been really cases of intestinal strangulation.

Of the 169 cases of intestinal obstruction collected by Mr. Phillips, in 60 obstruction was from *strangulation* by false membranes, torsion, etc., and 69 were from *intussusception.*

Treatment.—In any case in which there can be a satisfactory diagnosis of the existence of internal strangulation, or intussusception, or any permanent intestinal obstruction, there would seem to be but two modes of treatment indicated, viz., alleviation of the patient's agonies by anodynes; or a resort to the only alternative for the removal of the threatening and certain cause of death, by gastrotomy and an explorative operation for the removal of the obstruction. Unfortunately

* For an account of 43 cases of this kind, collected by Dr. William Thompson, see the *Ed. Med. & Surg. Jour.*, Nos. 125 and 127.

the diagnosis of these cases has usually been involved in too great obscurity, or has been made too late to warrant such treatment. In most of the recorded cases, drastic cathartics were administered to obviate the first and most unimportant of the symptoms, constipation; but in no case with any benefit to the patient. It is now conceded that it is possible to diagnose the existence of an insuperable intestinal obstruction: hence the main question of treatment must turn upon the propriety of surgical operation for its relief; and this is certainly a very grave question. First, it is impossible to determine beforehand the nature of the operation required for the relief of the bowel; and in the majority of cases that have been operated upon, it has been found necessary to attempt the formation of an artificial anus. Secondly, such an operation is always extremely hazardous, and doubtful in its results, and lastly, nearly all the cases in which such an operation has been performed, have proved fatal.

But on the other hand, it is true that an operation is the only alternative—a *dernier resort*, and that the dangers attendant upon such an operation are by no means necessarily fatal; while in a majority of the autopsies that have been held on persons that have died from intestinal obstruction, the interesting fact has been revealed, that the fatal obstruction could have been easily removed by the timely interposition of surgical aid.

The histories of several cases in which gastrotomy has been performed in this country are relevant to the discussion of this question. First we would refer to the case detailed by the late Dr. Brigham, in which a lunatic female laid open her own abdomen, and cut off *seventeen inches* of the colon, and subsequently recovered, with a complete intestinal canal. (*Am. Jour. Med. Sci., N. S.*, vol. xviii. p. 357.) In 1845, Dr. Manlove, of Tennessee, opened the abdomen of a boy, for the relief of obstinate constipation, simulating intestinal strangulation; and he *unwittingly* plunged his knife into one of the intestines so that the lad was, by the surgeon's carelessness, at once relieved of his constipation; an artificial anus was established, but at length closed when the natural passage had become relieved. The same heroic gentleman also relates a

very instructive case in which Dr. Wilson, of the same State, diagnosticated the existence of intussusception in a negro, and for the relief of which he operated successfully, though he was obliged to *dissect* up the fibrinous adhesions that had occured between the invaginated serous surfaces of the intestine, (*Boston Med. and Surg. Jour.*, July 23d, 1845.)

In 17 of the 48 cases of operation for stricture of the colon, given by Mr. Hawkins, the cavity of the peritoneum was opened, and 7 of the patients recovered, which is nearly as large a measure of success as attended those operations that were performed in which the operation was made external to the peritoneum.

The impunity with which the abdominal cavity has been laid open for the purpose of extracting ovarian tumors, clearly establishes the fact, that for a sufficient cause the operation of gastrotomy is warranted. The following are Mr. Phillips's conclusions on the subject of operation: 1st. "That the interference by surgical operation is justifiable when three or four days have passed without any relief from ordinary means, (provided constipation be complete and vomiting of fæcal matter continue,) because it affords a greater chance for the preservation of life than ordinary means." 2d. "That if the indications as to the seat of the obstruction be sufficient to satisfy the surgeon, it is at or near that point that the incision should be made; but if there be much doubt, it is most prudent to make the incision on the median line." 3d. "That if it be found impracticable to remove the cause of the obstruction, or imprudent to make an extended search for it, relief may be obtained by forming an artificial anus as near as may be prudent to the seat of the obstruction; and that if it be, as it generally is, near the termination of the ileum, an incision on the median line admits of its accomplishment as near as may be to the termination of that intestine." Mr. Robinson gives it as a rule that the central incision should be preferred.*

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* *Observations on some of the Complications of Hernia; and on Obstructions of the Intestines within the Abdomen.* By R. R. ROBINSON, Esq. *London Jour. Medicine, July*, 1851.

Dr. Golding Bird makes the following sensible remarks on this point: "Although we may, perhaps, judge by the patient's sensations and other concomitant circumstances or symptoms of the probable position of the obstruction, it must be admitted that experience has not yet pointed out with sufficient certainty the extent of reliance which ought to be placed in the indications as to its precise locality; so long as any doubt remains as to whereabouts in the abdomen we are to look for the obstructing cause, I think it must be the safer plan to adopt the median section of the abdominal parietes; * * * it has the advantage of not implicating muscular fibres, and further, it avoids the risk of hæmorrhage." * * * (*Dr. Bird and Mr. Hilton in Medico-Chirurg. Transact.*, vol. xxx.) Mr. Wilson and Dr. Bird adopted this mode, and theirs is the first successful operation for the relief of obstructions by bands of false membrane, that we are able to find on record. In 1848, Mr. Druitt was equally successful in a similar case. It should be mentioned, however, that in the former case the patient died from exhaustion, nine hours after the operation, which was performed on the twentieth day, and in the latter case, in which fæcal extravasation had occurred previous to the operation, the patient died in two hours. Yet so far as the discovery and division of the strangulating bands was concerned, these operations were perfectly successful. In a case related by Mr. Phillips, in which the abdominal section was made in the right iliac region, the cause of obstruction was not discovered, and an artificial anus was formed; the autopsy revealed a strangulated knuckle of intestine beneath a band extending from the mesentery across to the mesocolon. In this case Mr. Simon, the operator, suspected that the obstruction was situated in or near the cæcum.

In a case recently reported by Mr. Luke, of the London Hospital, the abdomen was opened by a perpendicular incision above Poupart's ligament, on the outside of the epigastric artery; the small intestines were examined as far as practicable, and no obstruction discovered; the patient died on the fifth day, and post-mortem examination revealed a stricture of the ileum by a narrow band of membrane, so disposed as to encircle the intestine, and similar in character to the adjoining

peritoneum. In this case, the physicians and surgeons in counsel, with Mr. Luke, among whom was Dr. Pereira and Mr. Critchett, decided before operation, that in all probability the obstruction existed in the descending colon; but after death, the strangulating band was discovered to be four feet from the cæcal termination of the ileum. (*Medico-Chirurg. Transact.*, vol. xxxv.) These interesting cases serve to illustrate at once the difficulties and the importance of determining the position of the obstruction, before making the explorative operation for its relief, and at the same time, their results strongly corroborate the remarks above mentioned, concerning the propriety and superiority of the median abdominal section, except in cases where the exact position of the obstruction *is known.*

At what period should surgical relief be attempted? This is certainly a difficult question to decide; Mr. Phillips says, "when three or four days have passed without relief by *ordinary* means;" Mr. Robinson thinks it not justifiable to operate so soon; but from a careful study of the recorded cases of intestinal obstruction, and the results of operations attempted for their relief, we feel satisfied that in case the diagnosis of intestinal strangulation, or intussusception is perfectly clear, surgical interference, if attempted at all, should be as *early* as possible. It is possible that some well-marked cases of intussusception recover, but it is not probable that any case of intestinal strangulation from bands, etc., with urgent symptoms, ever has recovered; and it is certain that in a large majority of the recorded histories and post-mortem evidences in both of these forms of intestinal obstruction, it clearly appears that surgical aid might at least have restored the intestinal canal to its normal condition and position; and it seems highly probable, as in the case reported by Dr. Bird and Mr. Hilton, that if such aid were sufficiently early, it might prove successful, in at least as large a ratio as in cases of ovariotomy.* The

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* Out of 162 cases of Ovariotomy, in Great Britain, in only 61 cases did the operation prove fatal. (*Vide* "*An Analysis of* 162 *cases of Ovariotomy which have occurred in Great Britain.*" By ROBERT LEE, *M. D., F. R. S. Medico-Chirurg. Transact.*, vol. xxxiv.)

comparative safety of gastrotomy as an operation, however, by no means affords free warrant for such surgery in cases of ordinary intestinal obstruction, however urgent the symptoms, unless there is in the history of the case much to warrant the hope of relief by operative interference, and a very certain prospect of a fatal termination without such aid is afforded.

The real difficulties that lie in the way of conscientiously attempting surgical relief, even in the most clearly marked cases of strangulation by bands, etc., are perhaps sufficiently obvious; even in the case we have reported, operative interference would have been of doubtful utility, so extensive and so complicated were the pathological lesions; and we have been able to find the records of but few cases of intestinal obstruction in which operative measures seemed clearly warranted, except where the obstruction was known to be located in some portion of the large intestine.

Art. IV.—*Case of Aneurism of the Anterior Tibial Artery, apparently cured by Venesection.—Hemiplegia from Extravasation in the Brain, in the same Subject.* By J. Uglow, Jr., M. D., late Senior Assistant Physician in the Hospital of King's Co., L. I.

Catharine Reynolds, æt. 25, Irish, of thin, slight make and spare habit, was admitted into the King's Co. Hospital, Dec. 11, 1851. Of her history was gathered, that, on arriving in this country in March previous, she had an attack of typhus fever, which lasted for about six weeks. That after recovering from this she enjoyed a fair state of health, though remaining weak, until Dec. 9, when she was taken suddenly ill while walking in the street. Two days after this she was brought to the hospital. When admitted she was found to be paralyzed on the entire left side, and the paralysis, she stated, had come on gradually. She remained under the treatment of one of the other physicians until April 14, 1852, when she came under my care. At this time she had recovered, in a great measure, the use of the left leg, but continued very weak and anæmic. A day or two after my taking charge of her, she called my attention to a severe pain in the left ankle, from

which she had been suffering for a week or ten days. On examination I discovered a pulsating tumor situated over the course of the anterior tibial artery, at the distance of about an inch above a line connecting the two malleoli. Pulsation was perceptible over the whole surface of the tumor, and was controlled by pressure upon the popliteal or the femoral. The tumor gradually increasing in size, on the 25th it was decided to attempt its cure by pressure. At this time the tumor measured at its base about four inches in circumference. On the 26th the tourniquet was accordingly applied over the femoral, sufficiently tight only to diminish the pulsation of the aneurism. On visiting the patient in the evening, I found that she had taken off the tourniquet, it having remained on three hours, on account of the pain which it gave her. For this reason its reapplication was for a time delayed. At this time the pulsation in the tumor seemed to have lost nothing of its force or volume. On the evening of the 28th, during my absence, she was seized with symptoms of apoplexy, and the physician in attendance bled her until consciousness was fully restored, taking away about twenty-two ounces. When I saw her again on the next morning, she appeared about the same as usual, though expressing herself very weak. Upon placing my hand over the aneurism, however, I was surprised to feel no pulsation whatever in it. I continued to watch it carefully for some time after this, usually examining it two or three times a day, but never found any return of pulsation, and the tumor gradually decreased in size. The patient after this second attack appeared slowly and almost imperceptibly to fail, although she still retained the partial use of the left side, until early in July, when diarrhœa supervened and continued to her death, July 23d. At the time of her decease no appearance of the aneurismal tumor could be seen externally, and upon dissection the calibre of the artery was found completely obliterated, as far up as it was traced—nearly to its point of emergence through the interosseous membrane: the same presenting the appearance of a flattened cord, and smaller than the accompanying nerve. We were prevented from following it further, but there can be little doubt that the obliteration extended as far up as its point of origin from the popli-

teal, since the deposition of fibrin in in these cases, "generally continues in the artery on both sides of the sac as far as the giving off of the next large branches." Cooper's *Surg. Dict.* p. 102. It was also traced down to the commencement of the dorsalis pedis, where it became so small as to render it difficult to pursue it further. The posterior tibial was larger than it usually is.

On examining the brain, three clots were found in the right hemisphere, all of them situated nearly on the level of the ventricle, and varying in size from that of a hazel-nut to that of a hickory-nut. Two of these were in the anterior and one in the middle lobe. They were all more or less firmly organized, and the substance of the brain around them was softened. There was also found in the middle lobe, a cavity, in size a little larger than a hazel-nut, surrounded by a firm cyst of about a line in thickness, and filled with a thin, turbid serum.

The principal point to be noticed in this case, is the apparent cure of the aneurism by the bleeding, in a measure upon the principle of Valsalva; although practised in this case for another object, and by one who was not aware at the time that the patient was the subject of an aneurism.

We could not, it is true, be certain that we were right, should we attribute all the credit of the cure, in this case to the agency of the bloodletting; for it is possible that the process of fibrinous deposition may have begun during the short time that the application of the tourniquet was continued, and this consideration is strengthened by those cases in which a cure has been effected by the employment of pressure for a short time.

In any view, however, the sudden and complete cessation of pulsation, in other words, the rapid formation of a firm coagulum in the aneurism, consequent upon the bleeding, is a point of considerable interest, and seems greatly to favor the belief that the abstraction of blood in connection with the application of pressure, and perhaps even of itself, is a means of very great value in the treatment of aneurismal diseases. The plan pursued by Valsalva was to reduce the patient gradually by diminishing the quantity of food, and by small and repeated bleedings of six or eight ounces at a time. In this

case, on the contrary, there was but a single bleeding, but that, considering the condition of the patient, was a very full one, and it is most probable that it produced the result in question, not only by greatly increasing the relative proportion of fibrin in the blood, but principally by producing a state of the circulation closely approaching that which obtains in syncope, in this way allowing sufficient time for nature to effect the closing up of the vessel with its dilated portion. In view of this result, we may be justified in asking, first, whether in the treatment of aneurismal tumors, the employment of a full and copious bleeding, during or after the application of pressure, may not greatly facilitate the process of cure? Secondly, whether a full bleeding, carried almost or quite to syncope, and even without the employment of any other agent, may not, in some cases at least, suffice to effect the entire closure of the aneurismal sac, and the consequent cure of the disease?

This case is also of interest as illustrating the occasional occurrence of genuine apoplexy, in persons of a slight and even delicate conformation, and possessing none of those distinctive characteristics which we are accustomed to regard as evidences of a predisposition to this disease.

ART. V.—*Remarks on Ascites and Paracentesis Abdominis; with a Case.* By JAMES D. FITCH, M. D., Physician to the "Colored Home Hospital, New-York." Reported by ROGER G. PERKINS, M. D., late House Physician to the same Institution.

SINCE the acuteness and sagacity of Dr. Mead, in suggesting external compression as a substitute for the internal distention, taken off by the withdrawal of the fluid of ascites, in the operation of tapping, the fearful consequences which so often arose before his time are seldom met with. We now hear of a death during, or immediately after this operation but rarely; and if the death happens within a few days after the tapping, it is mostly in those cases where constitutional strength has been so much prostrated by organic disease, that the reaction is but slight, if any. Under these circumstances,

paracentesis is but seldom resorted to (where a known organic lesion is the cause of the ascites, and where the strength of the patient is daily growing less and less), unless for the purpose of rendering endurable, and perhaps comfortable, the few remaining days of life. When, however, the reaction is well marked, and the relief more or less permanent, the operation is justified as often as the dropsy returns. Thus, in a case of subacute peritonitis, with an effusion of serum, which resists the remedies proper for such a case, no one can doubt the propriety of continued tapping, in hope of wearing out the disease—or in other and perhaps better words—for the purpose of removing the internal tension, and thus allowing additional opportunity for the absorbents to take up the fluid remaining, and for the coats of the blood-vessels to resume their tonicity.

The cases of *ovarian* dropsy which have been treated by tapping are not few, and the amount withdrawn from one patient, in many tappings, is often very great. The cases of Martineau; the one of "Dame Mary Page," familiar to all readers of Watson; the cases of Dr. Lee, Dr. Ashwell, Dr. Smith, and the many cases met with in a hasty overlook of Journals, are ample proofs of the frequency of this operation; upon the whole, however, it seems to be of but little service, and the *reason* is obvious, which, with a collection of cases of ovarian dropsy, treated by tapping, will be reserved for another occasion. Notwithstanding the large amount of fluid sometimes taken from *ovarian* cysts, I have met with but very few cases where the quantity has exceeded that withdrawn from the abdomen in the case about to be narrated. And I have not seen any case of *ascites proper* on record, though I have sought for one with some pains, in which the amount taken away, or the number of operations were equal to those occurring in the following case:—

CASE.—A—— L——, aged 47 years, a native of Hull, England, 12 years resident in New-York; married in 1840; childless; died 16th March, 1852.

Dr. Fitch was first called to this patient in the month of

January, 1847, when he obtained the following previous history of the case:—

After having enjoyed general good health during former years, both before and after marriage, about the beginning of the year 1846, she began to be affected with symptoms, which had been assigned by the physician who had her at that time under his charge, to a derangement of the functions of the liver. Taking this view of the case, among other remedies suggested and prescribed, was a sea voyage, and as the patient had friends living in England, she immediately consented. During the voyage, she suffered much from sea-sickness, and pain in the abdomen, followed by dropsical symptoms, occurring towards the end of the voyage. On her arrival at Hull, the inconvenience and dyspnœa, arising from the pressure of the fluid upward, became so great as to demand the immediate use of the trocar, and the operation was performed by Dr. Hardy, who, I believe, is at present living in Hull. Dr. Hardy at this time withdrew 7½ quarts, and the date of this, the first tapping, is July 22d, 1846. Of the further treatment pursued by Dr. H., during the stay of the patient in England, which extended over a period of several months, nothing is known.

When the patient was first seen by Dr. Fitch, she was found suffering greatly from distention of the abdomen, with much pain and dyspnœa. As the demand for relief was urgent, no delay was made in performing the operation of paracentesis. After the slight history of the case, as has been given above, had been obtained, this, the second tapping was performed, January 16th, 1847, on which occasion 9½ quarts were withdrawn, followed by a good reaction, and producing a total subsidence of all the more distressing symptoms.

After the patient's recovery from the exhaustion attendant upon the operation, a critical examination, both physical and rational, was made, with a view of discovering the actual lesion which caused the dropsy. There was found great tenderness over the hypogastrium, with manifest enlargement of liver; if pressure was made upon the epigastrium, an effort to vomit was the immediate consequence. There was tenderness over the whole abdomen, of course, and in addition,

the patient complained of a dull, heavy pain in the lumbar region, and also in the site of the kidneys. The sound of the heart was perfect, and there was no œdema of the extremities. On examination of the urine, there was a copious deposition of albumen. Fluid scanty, and perhaps tinged with bile. Here, then, were two sources, from either of which the effusion might have taken place—nephritic and hepatic—and, in the absence of additional aids to diagnosis, she was put upon a mercurial treatment, as best suited to the two lesions. Under this course, the tenderness in the hypogastric region was lessened, and the albumen in the urine almost entirely disappeared. The general health of the patient, which had not yet begun to suffer very much, was also decidedly improved.

Notwithstanding the good results of treatment, in thus relieving the hypogastric tenderness, and diminishing the albumen in the urine, the effusion of water into the cavity of the abdomen still continued, though its collection was not so rapid as before. After the lapse of about four months, the distention became again so great from the ascites, impeding the functions of respiration and circulation to such an extent, as to render a third tapping absolutely necessary, which was, accordingly, performed, May 2d, 1847, and 13 quarts of serum were withdrawn, with the same relief as before.

She was now put upon a course of diuretics, and, after a trial of most of those usually relied upon in the treatment of dropsies, that from which she received the most marked benefit was as follows:

℞.—Buchu Fol. ℥j.
Digitalis Fol. 3j.
Aquæ ferv. Oj.
M. f. infus. To be taken pro re rata.

The effect of this remedy was to delay the necessity of the fourth operation for six months, till the 20th October, 1847, when tapping was again resorted to, and sixteen quarts were taken from her. After this operation a consultation was called, the decision of which was, that the disease was hepatic, and that the dropsy arose from an obstruction to the circulation through the liver. A course of iodine, in the form of hydriodate of

potassa was recommended, and at this time it was remarked that but a small trace of albumen remained in the urine.

The dropsy still continued, and on the 16th April, 1848, paracentesis was performed for the fifth time, and twenty-two quarts of serum were removed followed by the results attendant on the previous operations. The same treatment with occasional intermissions was continued, when after a time, on July 27th, 1848, 21 quarts were removed, this being the sixth tapping.

From the two last operations patient rapidly recovered, so as in a few days to be able to resume her ordinary occupations. She was now put upon the chlorate of potassa in solution, which acted well as a diuretic for some time.

On the 27th December it again became necessary to tap, when 21 quarts were again withdrawn. As it was supposed that some relief had been obtained from the use of chlorate of potassa, its use was continued.

On May 3d, 1849, the 8th operation was performed, and 22 quarts removed from the abdomen. The ninth tapping was performed on the 9th Sept., 1849, and the amount reached 25½ quarts.

During the year 1850 the patient was advised to make trial of some of the mineral springs of our country, and the result of her acquiescence was an improved state of her general health, but the effusion continued with but little or no abatement. During this year she was tapped, Jan. 3d, to the amount of 25 quarts; April 2d, 26 quarts; June 23d, 25½ quarts; Sept. 15th, 25 quarts; Nov. 25th, 26 quarts. About the middle of this year my attention was called to an obstruction of the vagina, which on examination, par toucher, was found to proceed from a tumor supposed to be ovarian. The use of iodine was again resorted to, with the hope of reducing the tumor as well as lessening the ascites. Its use was continued for some months with but little manifest advantage, the effusions still progressing, and no perceptible decrease in the size of the tumor.

During the year 1851 little was done to effect any change in the condition of the system, palliatives, diuretics, laxatives, and occasional tonics being all that were employed. In this

year she was tapped, Feb. 5th, of 26 quarts; April 17th, 25 quarts; June 2d, 25½ quarts; July 8th, 26 quarts; Sept. 27th, 27 quarts; Nov. 27th, 27 quarts; Dec. 31st, 27 quarts. The latter part of this year a scirrhous tumor was discovered in the axilla, which was accompanied with some shooting pain. Soon after its discovery patient assumed a cachectic appearance, and from this point her general health rapidly declined. The tumor in the vagina was also found to be upon the increase and œdema of feet and legs—more particularly of the left—ensued to such an extent as to become very troublesome. The effusion into the abdomen now increased more rapidly than ever, so that on the 12th Feb., 1852, she was tapped for the 22d time and 29 quarts withdrawn. From this operation she rallied in a most unexpected manner, and in less than a week was about her usual household duties. In less than four weeks time, however, it again became necessary to tap, and on the 7th of March she was operated on for the 23d time, and the last, and 29 quarts were withdrawn. From the effects of this tapping, nature in vain attempted to rally. Effusion into the chest took place, and on the 16th of the same month, one week after the last operation, patient suddenly expired.

Autopsy.—Examination twenty-four hours after death. The immediate cause of death was discovered to be an effusion into the pericardium, which sac was found greatly distended with serum. The *liver* was found softened to such an extent as to allow the finger to pass easily through its structure, and firmly compressed against the diaphragm by the adhesions of the peritoneum of its under surface to the abdominal parietes. The *peritoneum* was very much thickened in most of its extent to the amount of one-fourth of an inch, and bearing every where upon its surface the evidences of an inflammation which had resulted in a serous effusion. An *ovarian tumor* was discovered occupying the place of the left ovary, which consisted of a large sac accompanied by several smaller ones, varying in size from the size of a walnut to that of an egg. The contents of these sacs was purulent matter, in an advanced stage of decomposition. In addition, there were found the debris of a large sac which must have existed even before the sea-voyage, and which the vomiting during sea-sickness must have rup-

tured. The lining membrane of the sac seemed to have still continued the secretion of an acrid serous fluid, even after the rupture of its walls, and the presence of this secretion in the peritoneal cavity must have occasioned a chronic peritonitis—the cause of the ascites. The tumor pressed upon the iliac veins, which accounted for the œdema of the extremities. As the dropsy did not extend above the diaphragm until the effusion into the cavity of the pericardium took place from debility; the slightly granular condition of the kidneys had but little to do with it. The scirrhous tumor in the axilla was altogether an independent disease.

The report of this case is submitted for publication, as illustrating the length of time the life of a patient may be prolonged by tapping, and as evidence of the great value of the operation even in those cases where the amount of organic disease would seem to deny its indication.

SOCIETY REPORTS AND TRANSLATIONS.

ART. VI.—*Extracts from the Report of the Proceedings of the New-York Pathological Society.* [Selected and prepared by Committee of Publication.]

Case of Carcinoma of the several portions of the Osseous System and Spinal Cord. Reported to the Society by Prof. A. CLARK, M. D.

ANN HUGHES, aged 33, born in Ireland, was admitted to Bellevue Hospital, Sept. 29, 1851. No hereditary predisposition traceable, general health has been good until about five months ago, when she first observed a small hard lump, size of a nutmeg, in left breast. The tumor is painless and has gradually increased in size, appearing now to occupy nearly the whole of the left breast. Soon after noticing the tumor, she began to have severe pains along the course of the spinal column, between the shoulders and in the axilla, where the glands are enlarged and indurated. She is gradually losing the use of her lower extremities, though at present able to walk with some assistance; sensation not affected; has had cough with pretty free mucous expectoration for the last ten days. Menstrual function regular, bowels costive, pulse 100.

Physical examination, Sept. 30th, 1851, by Dr. Metcalfe. Chest of healthy conformation, with exception of tumor in left breast, and possi-

bly slight prominence of left supra and infra clavicular regions. Thoracic vibration normal, percussion anteriorly, normal. Friction sound, heard on left side above third rib, on forced inspiration, voice natural, expiration not prolonged. On right side with inspiration, sibilant and sonorous rhonchi. No mucous rales audible, except on cough, when there are subcrepitant rales on both sides. Posteriorly, at summit of right lung, bronchial respiration and bronchophony. The bronchial respiration distant and most marked in expiration. At base of left lung a very little crepitant rale. Percussion posteriorly, normal. Treatment palliative.

October.— Physical examination by Dr. Clark. Coarse crepitus anteriorly and posteriorly, over both lungs. Vocal resonance more distinct just below spine of scapula on right side than on left. Under the clavicles an occasional rale, as often moist as dry, expectoration mucopurulent, no stain of blood, moderately abundant.

Examination Jan. 28th, 1852, by Dr. Metcalfe. Patient is much emaciated, can scarcely be touched or moved without great pain and suffering. Complains of loss of sleep, night sweats, nearly complete paraplegia and loss of appetite. The cough still continues, expectoration occasionally streaked with blood, has never raised pure blood, pulse 108.

Physical examination.—Left breast entirely occupied by a scirrhous mass, some four inches in diameter and movable on the chest. The middle of sternum prominent, the supra and infra clavicular depressions well marked; normal resonance over the whole of chest anteriorly. Posteriorly, on left side, dulness from left interscapular space to summit of the lung, right side fairly resonant. In the left supra-spinous fossa vesicular murmur absent; bronchial respiration and bronchophony with now and then a crepitant bubble. These signs extend over left interscapular space, below this results normal. At summit of right lung same signs as on left side, but much less distinct. In right interscapular space slight bronchial respiration and bronchophony mixed with occasional crepitus.

Patient died February 1st, 1852. For ten hours preceding her death had profuse vomiting of a dark brown watery fluid.

Autopsy twelve hours after death.—The body presents no appearances different from those described at the last examination. The right femur appears to have undergone spontaneous dislocation at the hip-joint. On rotating the limb or making strong pressure over the upper part, crepitation is distinctly felt. The same remarks apply to left femur with the exception of the apparent dislocation. Both bones easily broken on attempting to bend them.

Chest.—Both lungs slightly adherent by old false membranes. About

four ounces of serum in the left pleural cavity. The left lung externally healthy to all appearance and crepitant throughout. On incision the upper lobe is found œdematous. The mucous membrane lining the bronchial tubes congested, of a dark red color. Right lung in the same condition save that the œdema is more general. *Heart* natural.

Abdomen.—The liver apparently healthy with the exception of a single scirrhous tubercle, size of a large buck-shot, on the under surface of left lobe. *Spleen* healthy.—*Kidneys* healthy.

Stomach greatly distended, descending to the symphisis pubis. The great curvature measuring twenty inches, the lesser nine inches. On laying open this organ, in the larger extremity near the cardiac orifice, is a space about four inches square in which the mucous membrane is intensely congested. The remainder of the internal surface natural. *Uterus.*—The os uteri congested and filled with mucus. Mucous membrane slightly abraded. *Vertebral column* softened like cancerous infiltration, from the first dorsal vertebræ to the promontory of the sacrum. The head and upper third of right femur, also the bone for some distance around the cotyloid cavity softened in the same manner. Bones in same condition on left side.—*Feb.*, 1852.

Case of Suppurative Inflammation of the Brain, attended with Deposit of Pus in Right Eye.—By T. F. Cock, M. D., one of the Physicians to Bellevue Hospital.

A boy, 9 years old, of good constitution and not supposed to be unwell, went to school in his usual health on Friday, Feb. 27th. While there, he felt himself unwell, but staid until 3 P. M. On his return home, he was seized with a chill, and vomiting of bilious fluid, together with pain in the left side, unattended by cough. He was restless all night, but no special attention was paid to him until morning. On Feb. 28th, Saturday, 7½ A. M., I found him perfectly unconscious of external impressions, moaning and restless: skin cool and pale, head cool, and face rather cold; pulse about 120, and feeble; pupils respond to light; right eye suffused. As he was raised to examine the chest, noticed that he had urinated in bed. Bowels opened yesterday. At 4 P. M., the stomach rejects remedies, and bilious fluid is ejected; eyes more injected, right pupil contracted, the left dilated, head quite cool, but the skin a little warmer—pulse as before—is exceedingly restless. 7 P. M. Vomiting ceased; in addition to above symptoms the head is strongly averted to the right. Feb. 29th. Passed a restless night, rejected his medicine, a free stool from an enema, and urinated also. Is less uneasy at present. Right pupil contracted and motionless, the conjunctiva

considerably injected; the left eye is clear, the pupil dilated and oscillating. Some red spots, like typhous eruption, are noticed on the face, especially about the eyes. Pulse 126. Right hand clenched and turned inward; tosses the left towards the head constantly. Is said to have had spasmodic twitchings of the mouth and eyelids during the night. During the day no special change of symptoms. March 1st. Restless; quieted by tincture belladonna, in doses of a single drop. Is perfectly unconscious; pulse 120, and regular; respiration 28; head inclined toward right; right arm paralyzed, left tossing towards the head. A deposit of pus is noticed in the anterior chamber of the right eye, the pupil being irregular; the left eye is unchanged. During this day, the restlessness returned, but there was no moaning; the eye became more involved in the purulent deposit. March 2d. Moribund, convergent strabismus; right eye quite hazy, the pupil very irregular and widely dilated; pulse thready; respiration very rapid.

Died quietly about 2 P. M., being about 96 hours after the ushering in of the attack by the chill.

Post mortem examination, by Dr. Isaacs, 24 *hours after death.*—The examination of the brain was commenced without removing it. The scalp was almost bloodless, and but little blood was noticed on removing the skull-cap. On opening the longitudinal sinus, a fibrinous clot was removed, about two inches in length.

The dura mater being removed, showed a purulent sub-arachnoid deposit, which followed the convolutions intimately, and especially marked at the bottom of the fissure of Sylvius. The substance of the brain was consistent, and even resisting, and no part of the internal structure exhibited softening. A small amount of serum was found in each ventricle. The hemispheres being removed, the base was examined, and much thick pus found in various situations. The commissure of the optic nerves was covered with a thick deposit, but no lesion of structure discovered. The fifth pair on the right side was imbedded in pus, and between its filaments thin pus was infiltrated, giving the impression that considerable pressure had been exercised upon it. A similar but much less marked state obtained on the left side. Around the seventh pair, on the right side also, there was much pus. Beneath the arachnoid, on the superior surface of the cerebellum, there was considerable deposit of pus.

The kidneys were removed, and appeared simply pale. Some whey-like urine was pressed from the bladder, which was alkaline, yielding a deposit to both heat and nitric acid, clearing up at first when heated.

On seeking for some cause for the disease, and repeating over some of the usual causes of such diseases, I was told, that on the Tuesday

preceding his death, he was busy with his coat off melting lead over a hot fire on a shovel. Is it irrational to suppose that the exposure to heat may have produced irritation in the brain, and subsequent cold in running the lead in a colder atmosphere, should have induced his malady? There are several points of interest in this case, seeming to me worthy of notice. First, granting that the disease was induced by the exposure to the fire on Tuesday, its manifestation was after an interval of seeming health on Friday. It then appears with symptoms betokening profound cerebral lesion, conjoined with great vital depression. A chill and vomiting are followed by insensibility and restlessness, but with a cool head and skin, a feeble pulse, and rapidly by paralysis. The deposit of pus in the right eye noticed on the third day, seems worthy of attention, and the corresponding lesion of the fifth nerve is of some value.

Case of Necrosis and Caries of Tarsus and Metatarsus. By CHAS. D. SMITH, M. D., one of the Surgeons to Bellevue Hospital.

Catherine Hanley, aged 25—Ireland—single. Admitted into Bellevue Hospital, Dec. 13. Constitution delicate, habits regular. With no hereditary predisposition to disease.

In early life she received an injury of the left foot, the nature of which she does not recollect: the result was a dislocation of great and small toe, and in consequence the patient was in the habit for a number of years of walking on the heel of that foot.

When about 7 years of age, she slipped while walking, and dislocated the ankle joint of same foot, and for months after was unable to walk. The luxation remained unreduced; there was considerable swelling and inflammation of the whole foot, with pain extending up the leg.

Since first accident, the foot has been more or less swollen: since the last, has several times opened on the plantar surface, and discharged fœtid pus, occasionally healing, but soon again reopening. Three years ago, the first piece of bone was removed. It then healed, and up to three months ago, she was enabled to walk, experiencing but little inconvenience. It again became painful and swollen, extending up the leg, opened, and discharged pus, and a second portion of bone was removed. It healed, and about three weeks after reopened in same manner, and a third piece of bone was removed.

On admission, the whole foot was enormously swollen, the toes very distorted, and there was a large ulcer, occupying nearly half of the plantar surface, discharging fœtid pus, and occasionally bleeding. A fourth piece of bone was discharged, and a probe introduced was found to

strike against more dead bone. The tibia was enlarged throughout its whole extent, supposed by some who saw it to be the result of chronic periostitis, by others, simple hypertrophy of the bone. Upon consultation, it was deemed necessary to amputate at the thigh, but the patient would not consent, and left the hospital. She returned May 28th, very much broken down,—was exceedingly debilitated, had œdema of lower extremities, diarrhœa (occurring at night only), loss of appetite. Her urine was loaded with albumen; and acid. Pulse small and feeble. Her foot presented same appearance as when she left. Three weeks since, experienced great irritability of stomach, vomiting every thing she ate or drank. She gradually sank, and died, June 27.

Upon examination, there was found caries and necrosis combined, of the metatarsal bones. Caries of the tarsus, with destruction of the ligament. There *was no enlargement of the tibia whatever.* It was of normal size and appearance; but there existed hypertrophy of the integuments, anterior to the tibia, 1¼ inches in thickness, exceedingly hard, extending from knee to ankle.

A Case of Phagedenic Ulcer of the Os Uteri. By WM. KELLY, M. D., Physician to Blackwell's Island Hospital.

Bridget Cunningham, æt. 36, native of Ireland, of a lymphatic temperament, five feet in height, weight 105 pounds, was admitted to Blackwell's Island Hospital August 30th, 1851, complaining of a profuse discharge from the vagina, pain in the back and hypogastrium, languor, loss of appetite, &c.

She stated that she was married at the age of sixteen, and was confined in less than a year after, her labor lasting three days. This confinement was followed by weakness of the back. She was confined again ten years after, the weakness of the back increasing, as also the pain in the hypogastrium. Three years since, after a marriage of three years to a second husband, she was delivered of her third child, which, like the two former, was healthy. The weakness of the back, and the pain in the loins and hypogastrium now became very troublesome, and continued until about six months before her admission, when a purulent vaginal discharge appeared, with great aggravation of the pains alluded to. Upon applying to a physician, she learned that her husband was under treatment for venereal disease, and was farther informed that she was herself suffering from the same disease. She was treated by injections, &c., but not obtaining relief, procured admission to the hospital.

On examination with the finger, there appeared to be considerable induration, and the hard edges of an ulcer; examined with the speculum,

the os tincæ appeared to be at least two inches in diameter. The anterior lip was very large, and fell over the posterior, so as to conceal the os; a large, ragged ulcer, with sharply cut edges, occupied the left side, and discharging ichorous matter; a bright red border surrounded the ulcer, and its adjacent parts were highly congested. The ulcer was thought to be venereal in its character, though inoculation gave negative results. The treatment consisted of occasional applications of nitrate of silver, with astringent dressings; a nutritious and stimulating diet, with anodynes *pro re natâ*. Notwithstanding this treatment, the ulcer steadily progressed, until, on the 22d of September, it occupied the entire anterior lip. The odor was decidedly phagedenic; the patient's strength failed from loss of appetite and sleep. A yeast poultice was applied twice a day directly to the parts through the speculum, and a more stimulating diet ordered. The ulcer varied in its character so much in correspondence with the patient's state of mind, that it appeared to be sympathetic, and it was found necessary to sustain, as much as possible, her spirits. The poultices were continued about two months, and the acid nitrate of mercury was also applied, but without any special benefit. Poultices with laudanum were the dressings that seemed to afford the most relief. The iodide of potassium was administered at one time, and continued until it was proved to be useless; it was given in large as well as small doses. The bichloride of mercury with tinct. cinchonæ was tried without beneficial results.

The destructive process progressed, having intervals, however, in which it would appear to be arrested; granulations would spring up, and the parts cicatrize, giving encouraging hopes that a cure might still be effected. The appetite remained very good for six months after admission to the hospital. About the 1st of November the pain in the back became very distressing, and "cutting" in the bowels during defecation and micturition. At this time the organ was quite fixed in the pelvis, but not immovable; examination through the rectum discovered the cervix and body hypertrophied and very tender. There was no hemorrhage at any time, nor offensive odor from the parts other than that of gangrene, which condition the ulcer several times assumed. The patient became extremely emaciated, and seemed to die from the exhaustion consequent on the long-continued pain and profuse discharge. Her death occurred in April. It is worthy of remark, that up to December her menses appeared regularly; the quantity, however, for the last two months was limited. She had been pregnant three times, but, as before stated, at long intervals.

Autopsy seven hours after death.—Body extremely emaciated. Tho-

racic viscera normal. Abdominal organs healthy, excepting the uterus, which was slightly inclined to the right side, and *firmly fixed*, and the bladder, which was filled, and also firmly adherent to the surrounding organs. Body of uterus, as seen *in situ*, considerably larger than normal. On a careful removal of the organ, the posterior wall of the cervix and of the contiguous vagina was found perforated by the ulceration, opening one inch in width into the peritoneal cavity. The vagina being laid open upon the right side, revealed a belt of gangrenous ulceration about two inches in width, upon and encircling the superior portion of the vaginal walls, extending also to the cervix uteri, which was completely destroyed, together with about one-third of the body of the uterus. There was very little induration in the tissues adjacent to the disease; the vaginal walls were considerably thickened, and the edges everted at the point of ulceration.

Dissection of an Acephalous Fœtus, with Remarks. By C. E. ISAACS, M. D., Demonstrator of Anatomy in the College of Physicians and Surgeons.

This curious specimen, presented to the Society by Dr. T. F. COOK, was born immediately after the birth of a well-formed child. There was not the slightest appearance, externally, of any head, and but one exceedingly imperfect upper extremity. The two lower extremities were present, but the feet, and indeed the whole of these limbs, were strongly everted. There was no vestige of any anus. Examined internally, the abdomen was found to contain the small and large intestines, the kidneys, supra-renal capsules and bladder, and what appeared to be an imperfect uterus. The intestines and bladder communicated. There were no lungs, or heart, but a fibro-serous sac occupied the place of this organ, and was filled with an adhesive fluid. The spleen, pancreas, and liver, stomach and duodenum were wanting. The umbilical vein, on entering the abdomen, divided into branches, which were traced into the intestines, kidneys, and into the cellular tissue of the thorax. Some of these branches became continuous with the iliac veins. The aorta existed, and gave off branches to the intestines and kidneys; also the iliac arteries, from which the umbilical arteries proceeded to the cord. The spinal cord was present, and gave off the usual nerves; the spinal column was perfect, with the exception of the two first cervical vertebræ, which were defective in their size and form, and terminated in a pointed extremity. Upon this extremity the rudiments of the cranial vertebræ were placed, and consisted, apparently, of the basilar portions of the sphenoid, occipital, and petrous portions of the temporal bones, in one confused mass.

According to Vrolik and others, in the early period of development of the fœtus the head is not clearly distinct from the trunk. "From the third to the fifth week of gestation, the head, not previously discernible, grows so rapidly that it has in the fourth week acquired the same volume as the trunk. Now the development of the fœtus is sometimes arrested at that early stage when the head is not yet distinguishable; the result of such an arrest must manifestly be an acephalus." Vrolik lays down types of acephalous monsters, a few of which may here be mentioned. "1st. Acephali in the form of a rounded mass, no indication of extremities. 2d. The same, but with indications of feet. In these the colon, cœcum and kidneys exist, and some rudiments of a nervous system, but all the thoracic viscera, the liver, pancreas, spleen, stomach and small intestines are wanting. 3d. Acephali in which the trunk is more developed, without a head and thoracic extremities, but with an imperfect, inferior extremity. His 6th type which seems to come nearest to the specimen before us, is that of acephali with a trunk composed of thorax and abdomen, with two superior and two inferior limbs. In these cases, "to the spinal column are added cervical vertebræ and sometimes a confused indication of cranial bones. There is usually neither heart nor lungs. There are uropoietic organs, an intestinal canal with a cœcal termination, and *sometimes* a liver. The nervous system is very incomplete, but there is constantly a spinal marrow, with the abdominal part of the sympathetic. I have observed distinct muscles, of which the presence has been denied by others." Vrolik has given a plate of this type in his 49th table, and one very similar to it has been published by Ehrmann of Strasbourg. With reference to the specimen again presented here this evening, it is, I think, very evident that it must be referred to that class of monstrosities which are caused by *arrest* of *development.* The conditions through which the organs of the fœtus pass in their progress towards their perfect state of development, have been carefully studied and described by Meckel, Tiedemann, Geoffroy St. Hilaire, Vrolik and others. At any stage of their progress, the organs may be arrested in their growth, and remaining in this imperfect stage, which they should have passed to arrive at their complete and perfect organization, they constitute so many malformations, or defects of structure, many of which are familiar to every one, as for example, harelip, cleft palate, open foramen ovale, or deficiency of the septum of the heart, spina bifida, absence of limbs, or merely vestiges of them, &c., &c. The condition of the specimen before us, coincides with this view. There was no trace of a head externally, and internally the cranial bones were very imperfect, in fact, in a merely rudimentary state. The superior portion of the upper ex-

tremity had continued in that form, which is always observed in the fœtus at a very early period, the lungs and heart did not exist at all and the circulation was carried on by a simple system of vessels alone, thus demonstrating the fact, that organs may be formed, and the circulation carried on in the human fœtus, as in plants and some of the inferior animals, independently of the heart. The liver was absent, inasmuch as the stomach and duodenum did not exist, of which the liver seems to be a prolongation or addition implanted, as it were, upon the extension of the duodenal mucous surface. The communication between the bladder and rectum, and the existence of the diverticulum from the ileum, are all so many natural conditions of the fœtus in its early state, and by continuing still to exist they also show that these parts did not undergo their usual progressive changes, but were arrested in their growth, and continued to show a state of things proper alone to earlier periods of fœtal life. With regard to the enormous quantity of cellular tissue, this would seem to be formative material, which did not undergo its usual transformation into organs, and to which condition is probably to be attributed the deficiency of many parts of this monster.

Cases of Cancer of the Omentum, Stomach and Rectum. By PROF. PARKER.

W. N. J., born in Conn.—Aet. 32—health never robust—one of his aunts died with cancer. Six months ago thinks that he strained himself in the abdomen while lifting a heavy weight, and since then has been constantly complaining of sharp, lancinating pains over the region of stomach and bowels, and a train of symptoms which were ascribed to dyspepsia, such as inability to retain his food, and constipation. He was treated by homœopathists for liver complaint and disease of the kidneys. The patient kept about his business until within two weeks of his death, taking his food with a relish, but never retaining it more than three hours. He suffered mainly from the pains in the abdomen, and from general constitutional debility. A hard irregularly formed tumor was detected by the feel over the pyloric extremity of stomach.

He came under observation four days previously to death. The urine was tested and found normal. Diagnosis, cancer of the stomach.

Post-mortem examination eight hours after death by Dr. Watts. Cadaver not markedly emaciated, some œdema of the right lower extremity, and a slight tumefaction of abdomen. From two to three quarts of fluid were removed from the abdominal cavity. On removing the fluid and raising the flaps the whole omentum was found to be converted into a soft, solid mass, encephaloid in appearance, its dimensions

were six inches in length, six in width, about one half an inch in thick ness and somewhat heart-shaped. It was slightly adherent to the intestines and easily broken. Stomach was considerably contracted, and so strongly adhered to the surrounding tissues as to render removal exceedingly difficult. The pyloric extremity was in an advanced state of cancerous degeneration.

CASE 2.—*Cancer of the Rectum attended with an immense accumulation of Fæces.*

The person from whom this specimen was taken was a woman, aged about 65, who had died the night preceding the examination. The abdomen was found very much enlarged, and signs of decomposition already well advanced. Upon cutting through the walls, and throwing off the flaps, the intestines were found much distended by the great accumulation of fæces. In the left lumbar region was an extravasation of fæces, which came from an opening in the descending colon, (this was probably post-mortem, as there were no signs of peritonitis having existed,) the color of the fæces was a light brown, and of medium consistence, but of intolerable odor. In the rectum, about six inches from the anus, was found a mass of about the size of an English walnut; just above this the rectum was constricted, and forming with the tumor complete occlusion of the bowel; the mucous membrane below the stricture was cleaned and whitened from the numerous injections that had been given during life, which did not advance above the stricture. The calibre of the rectum was also diminished below the stricture; the color of the tumor at its most prominent point was bright red, growing gradually darker at its attachments to the mucous membrane. Above the stricture, the fæces had accumulated in a mass, causing great enlargement of the calibre of the rectum and descending colon; the small intestines were also distended with fæcal matter.

There had been no vomiting, or pain during life. She had not passed any thing from her bowels in some weeks.

ART. VII.—*Remarks on Bleeding in Inflammation and Fever, and on the nature of the Typhoid Diathesis;* a paper read before the Rockland Co. Medical Society, Jan. 4th, 1853, by MOSES C. HASBROUCK, M. D., President of the Society.

WHENEVER the general nervous and vascular systems become morbidly affected by local inflammation or the cause of fever, the functions of secretion and excretion are to a certain extent suspended, and the demand for

blood diminished; consequently a quantity of blood which may be normal in health, often becomes abnormal in disease. And when, as in sthenic excitement, the heart is not weakened, this abnormal quantity is forced with increased power upon the relaxed capillaries of the inflamed, or diseased tissue. It is this state of things which calls for the abstraction of blood.

Bleeding becomes necessary to bring down the quantity of blood to the diminished demand for it; and it becomes especially necessary to arrest the unnatural forcing action of the heart upon the relaxed capillaries. If these be the objects of bleeding, it can be useful only when these objects are attainable by it. To illustrate more fully, it will be necessary to consider briefly the pathology of inflammation and fever.

In searching for the rationale of vital actions, or phenomena, in disease, as well as in health, we believe with those who deem it necessary to begin with the nervous system, the only parts of the body within our knowledge, which originate, carry forward, and control action. Nerves first affected, then necessarily follows the affection of the vital actions, or functions dependent upon nerves. The first visible change in inflamed parts is allowed by all to be relaxation of the capillaries of the part inflamed; but there must be previously to this relaxation, an injury of the nerves supplying these vessels; for where there is loss of action (tonic contractions) there must be loss of nervous power, and in cases of inflammation not ending in resolution, the loss of nervous power is so great that disorganization ensues, followed by suppuration or death of the whole of the part inflamed. In fever, we have the same phenomena, but the capillary relaxation is general, and less in degree.

We trust that every practitioner at this day, is informed of the existence of two almost independently acting systems of nerves, called the "cerebro-spinal" and the "ganglionic" or "organic nerves;" the former capable of thought, sensation, and voluntary motion, and the latter presiding over the functions of organic life. All the functions of the organism are performed through the agency of the capillaries; hence the great sympathetic is the nerve of the capillaries; and hence it is this nerve which is primarily injured in all inflammations and fevers. And we believe that in all sthenic inflammations and inflammatory idiopathic fevers, it is this nerve alone; whilst typhoid diseases of every grade have superadded, a similar affection of the cerebro-spinal system.

But this will be more fully explained under a subsequent division of our subject. It is in acute sthenic inflammations that we are directed to bleed, and often largely, because it is in them that those pathological conditions generally exist which call for its practice, namely, blood un-

duly forced upon weakened and relaxed capillaries. And if inflammation wherever seated, and in all constitutions, always excited the general nervous and vascular systems, to a degree corresponding with its grade and extent; and drawing blood in return affected all inflammations, in all constitutions alike, proportioned to the quantity taken, the cure of inflammation would be very simple, and easily learned. Unfortunately this is not the case. The sympathetic effects of local inflammation are very much modified by the state or peculiarities of the general system, and also by the nature of the part inflamed; and the effects of bleeding are materially varied by the same causes. A division of constitutions under the term "temperament," has been made, to give the idea of the difference in the degrees of excitability. The nervous temperament is the most excitable, nervously, the nervous-sanguine, nervously and vascularly; the nervo-bilious less, the bilious still less, and the lymphatic least of all. But apart from a difference in constitutional excitability, different tissues in the same system are attended with different degrees of constitutional excitement with the same amount of disease; and the same may be said of different organs, whether more or less vital; and bleeding is much more prompt in its effects, and oftener available in one constitution than in another, and in inflammation of one tissue, and in one organ than in another. But why is this so? Not because of a variableness in constitutional excitability, nor in the difference in the power, or nature of different tissues and organs to excite, but because in these different constitutions, tissues and organs, inflammation consists pathologically, of more or less of the altered relation between supply and demand of blood; and between the force of the heart's action and the contractile power of the capillaries. Indications for bleeding are alike in all, or it is the existence or not of the same constitutional and local conditions, which must determine the use of it, and the quantity to be taken, and indeed the amount of benefit to be expected from it.

As a general fact, inflammation of serous tissues excites more than inflammation of the cellular, or parenchymatous structures, and inflammation of these more than that of the mucous.

Acute inflammation of the ligaments and periosteum often causes intense general excitement. As a general fact, too, cases of the highest excitement admit safely of a higher grade of vascular action than those in which it is more moderate; or in other words, the force of the heart's action judged by the pulse, will need to be reduced lower in inflammation of some tissues and organs than in others. A pulse, for instance, which might be allowable in pleuritis, would demand bleeding in pneumonia, or bronchitis, and decidedly so in muco-enteritis or dysentery.

We would also reduce the pulse lower in inflammation of the brain than in that of the lungs or liver. But why this difference, if bleeding be practised solely to bring within a certain limit the heart's *vis a tergo?* Why will a certain force in the heart inject seriously the capillaries of one organ and not of another, of the mucous tissue and not of the serous? We can explain the fact in no other way, than by supposing that some organs and tissues are naturally more lax, and the capillaries in them more easily distended than they are in others.

We have often heard teachers of medicine and others speak of bleeding in connection with puerperal peritonitis, phrenitis, pericarditis, (when it could be ascertained to exist,) and iritis, as if it alone could arrest the inflammation; and the more blood was drawn the surer was the cure. It was not understood that we can bleed our patients into, as well as out of inflammations, and even apoplexies. Supposing we have a case of acute meningitis, idiopathic, or following an injury, with the usually accompanying high vascular excitement; and we bleed and bleed again, until the pulse sinks down to or below the standard of health, and the inflammation be unsubdued. We apply cold to the head, or blisters to the neck, the bowels move freely, and the patient takes antimony; but still the pain, or delirium, the heat, intolerance of light and noise, are the same. Here is a vital organ diseased, must we bleed again? If we do, we shall increase the inflammatory congestion, by adding a general relaxation to a local one, and thus kill our patient. The pulse once reduced, bleeding has accomplished all it ever can; and if other remedies will not act upon the nerves of the organism so as to cause capillary contraction, recovery cannot take place. And so in iritis, pericarditis, endocarditis, peritonitis, and indeed all other acute inflammations. When depletion with sedatives and counter-irritation do not cure, we must resort to calomel; its action may be assisted or not by opium, to allay morbid sensibility of the nerves of the system and of the part.

We said it was not understood that we could bleed patients into, as well as out of, inflammation, or that the opposite states of repletion and depletion tended to the same results; there is no fact in medicine better established now. And so nearly do the symptoms of exhaustion sometimes simulate those of sthenia, that it requires great care, and, indeed, skill to make out the true diagnosis. We are sure that nothing in our experience has been more difficult than to determine, in some cases of fever following confinement, where there has been severe abdominal pain, and tenderness on pressure, or a violent headache with ringing of the ears, flushed face, &c., whether these symptoms were caused by a veritable acute peritonitis, or phrenitis, demanding, of course, venesection; or

by morbid sensibility of the nerves, the result of too great loss of blood, and requiring opium and tonics.

But in the case of actual peritonitis, as compared with acute phrenitis, for instance, we would bleed less in the former than in the latter; that is, we can control the heart's action and cure the inflammation of the peritoneum with the loss of less blood than we can phrenitis, because of the aid we can derive from opium combined with calomel in the former. And so in different organs and tissues, as we have already remarked, we should not bleed alike in all, as regards the effects upon the circulation; not alone because one tissue admits of higher vascular action with safety than another, but because we can also depend in different cases more or less upon the use of adjuvant means tending to the same end; thus in gastritis we cannot employ tartar emetic to assist us in allaying the inordinate action of the heart and in promoting capillary contraction, consequently we are obliged to bleed more than we otherwise would. Idiosyncracies and complications of diseases often lead to the same necessity. Some persons cannot take opium under any circumstances, and to some it would be unsafe to give the smallest amount of calomel. We have had cases of acute pneumonia, more often in children, complicated with that degree of gastric and intestinal irritability that nothing but cold water or mucilage could be given by the mouth, and our only dependence was upon bleeding and blistering.

Cases are not unfrequently met with of acute sthenic inflammation, with a small and feeble pulse, in which bleeding is quite as necessary as it is in the more ordinary forms which are attended with great excitement, and a bounding pulse. A person, for instance, is seized in the midst of apparent health with a chill, or chilliness, followed by headache, pain in the back and limbs, irregular heat of surface, a sense of oppression and debility, and an apparently feeble and frequent pulse. He may have pneumonia without pain or cough, or he may have inflammation of some other part without the usual symptoms which are dependent upon the nerves of sensation. This is a case of inflammation (injury to the nervous system and subsequent capillary relaxation) which, in its origin, stands more nearly related to some general constitutional peculiarity, or depravity of nervous function, than ordinary acute inflammations do; and which, in its sympathetic effects upon the general nervous apparatus, either through the previously depraved condition of the general functions, or from the local force this constitutional condition gives it, overwhelms innervation to an extent that produces general inaction and consequent congestion. Bleeding is called for in this state of the system, but it is not evidenced by the pulse and excitement, but by the cir-

cumstances of the attack. And it is called for, not to prevent the heart's increased action from keeping up a distention of the capillaries of the inflamed part, for no such increased action exists, but to unload the whole vascular system, even the heart itself. And in these cases it is not uncommon after bleeding to have excitement of so high a grade developed as to require bleeding again to moderate it.

Extensive or intense inflammation of vital organs will also sometimes produce this depressed or overwhelmed condition of the constitution.

Allowing, then, for all these modifications of sthenic excitement, and for the occasional exceptional cases of depression occurring in some peculiar conditions of the general system, or in some severe inflammations of vital organs, it will be proper to say, that the pulse is the guide in the use of the lancet. The force of the pulse reduced to a point which tells that the heart's unnatural forcing power upon the capillaries is removed, and we will have accomplished all that bleeding ever can accomplish. And to reduce it so far is absolutely necessary in all diseases, of whatever character, and wherever situated. And it will always be safe if practised at proper intervals, and if properly assisted by the use of appropriate sedatives.

In asthenic diseases we have an entirely different state of things. We have already stated, that in our view, diseases of the sthenic or inflammatory type have their origin in lesion of the organic system of nerves alone, whilst those of the asthenic or typhoid type have superadded a similar lesion of the cerebro-spinal system. If the lesion be local at first, it is propagated by sympathy; if general, as in fevers, it is produced by immediate impression. Let us see how the symptoms will bear us out in this remark. In sthenic diseases we have anorexia, white tongue, torpid bowels, hot skin, scanty urine, &c., all evidences of impaired function of the organic system, whilst thought, sensation, and voluntary motion, functions of the cerebro-spinal nerves, are comparatively unaffected. High excitement (exalted action, the opposite of that paralyzed condition which destroys function and originates disease) may cause delirium, and even convulsions; but ordinarily the eye has the expression of health (perhaps a little brightened by the excitement), the perceptions are clear, the muscular strength unabated, and the heart beats with more than its usual force. In asthenia, although we have an increase of the derangement of the secretions, the prominent diagnostics of this condition consist in the heavy eye, oppressed intellect, subdued muscular power, and feeble pulse; and closely connected with these, is a deteriorated state of the blood.

At different times in the history of medicine this fact has given rise to the "humoral pathology," many of the symptoms of typhus, and of some chronic diseases, seeming to be inexplicable without taking into consideration the attendant deteriorated condition of the circulating fluids. But blood cannot become deteriorated without a previous failure of the functions of the nerves which preside over its formation.

What part or parts of the body perform this function? Where is the food converted, and what converts it into blood? Professor Meigs says in the heart and blood-vessels, and by their lining membrane.

Assuming this as the fact, we say unhesitatingly that a deteriorated state of the blood, which evidently obtains in typhus, is corroborative of the view we have taken. The heart is a muscular organ of great power, and most anatomists and physiologists teach that the arteries have a muscular coat, and hence both must be supplied with motor nerves. We know that the heart is thus supplied. And always where this supply is greatest in any organ, the organic nerves seem more dependent upon them than in other parts, for their proper capabilities. In paralysis, nutrition is deficient, and the muscles waste. This, then, is the explanation of the typhoid diathesis,—of the essential nature of typhus. Lesion of the cerebro-spinal system, added to a similar lesion of the ganglionic, and embracing that important function of the system, the generation of blood. And that this function is deranged, whether situated in the endangium, as Professor Meigs terms it, or not, is proved not only by the known impure state of the blood in these diseases, but by the inability of the system to supply promptly any loss that may be produced spontaneously, or by venesection. The system in health has always a superabundance of adipose tissue from which support is drawn in case the digestion of food becomes impaired, as in all acute affections. Hence in acute inflammatory diseases we bleed, and repeat it again and again, and still find a new supply; but emaciation progresses rapidly. Not so in typhus; the least blood abstracted seems to be so much lost, nor can we increase the supply by stimulation; for blood cannot be made, or but slowly, and emaciation progresses equally slowly. It is often scarcely observable until convalescence commences, or until after protracted illness. Now, *à priori* we should suppose that diseases which cut off the supply of blood to the system, would not be those to be relieved by the abstraction of any portion of it, and upon which the system has solely to depend. And this is a fact proved by all experience.

Cases occasionally occur which simulate those of oppression in sthenia already mentioned, where in the premonitory stage the quantity of blood has not been reduced to the diminished demand for it, and

where, by its excess, life is immediately endangered by congestion, which will be benefited by a cautious bleeding. In the progress of the disease, too, if it be fever, a superimposed inflammation of some vital organ may, by its congestive or overwhelming effects upon the nervous system, produce the same effect, and the system have enough of the vital current left to admit of a topical abstraction. But these are exceptions, and the general fact remains, that typhoid diseases will not tolerate bleeding. Removing the injecting force of the heart (if it exist) will not relieve the capillaries, because the source of their power, the whole nervous system, is almost paralyzed, and kept so by a corrupted condition of the blood, the result of disease of the blood-making function. But the excited state of the circulation in these diseases is without strength.

The pulse is always compressible, which shows that the heart's power is diminished rather than increased, as it is in asthenia, and that it cannot exert any injurious propulsive force. That the heart is weakened, and that this weakness is connected with some affection of the organ, and that the state of the blood corresponds with the affection, is proved by the heart's softened condition in extreme cases. Dr. Latham says, "there is softening of the heart which belongs to fevers of a typhoid type, when the mass of blood becomes loose, and black, and uncoagulable, as if some foreign ingredient or some force had operated upon it so as to change its chemical affinities, and destroy for the time its natural properties as blood." Now do not these facts go far to prove that the making of blood is in some important manner connected with the heart? We think they do. And this admitted, we think that there can be no doubt of the correctness of our view of the *essential* nature of typhus.

It is possible that the portion of the organic nerves which supplies the heart and its lining membranes, as also that of the arteries, and which, as we assume, presides over the blood-making function, should be primarily and separately affected, and that the affection of the rest of the organic system, and cerebro-spinal nerves also, should be secondary, as the result of impoverished or deteriorated blood. But how, if this be the case, can we account for the comparative immunity of the cerebro-spinal system in sthenic diseases in which all the secretions are deranged, implying an affection of the whole ganglionic system, and which should take in the lining of the heart, as well as that of the stomach and intestines; unless the capillaries of the former hold that more intimate functional relation with the cerebro-spinal system which we suppose they do. And admitting this relation as the cause of their immunity in sthenia,

brings us back to the cerebro-spinal lesion as the primary step in asthenia.

In conclusion, we would remark of epidemic diseases, which have been a subject of discussion at some of our former meetings; we are all aware that diseases of this class are liable to vary their characters in different seasons, and in different localities in the same season; sometimes assuming the high inflammatory type, sometimes the opposite; but lately presenting something of a mixed character. And we would ask, if we reflect upon what we have seen of them in the light of the views now stated, can we not see more clearly our way through the discordant opinions of authors upon the propriety and usefulness of different, and sometimes opposite plans of treatment? And especially, can we not harmonize the discrepancy of opinion which seems to exist among us, in relation to the benefits of bleeding in dysentery, which so frequently, and sometimes so fatally, prevails in our country? As it has come under our observation during the past twenty years, we must again repeat that few, very few, cases have presented symptoms which showed any connection with malarious or any other origin, that naturally presupposes a poisoning of the whole nervous system, and the production of the typhoid diathesis; and hence few that could be safely treated without the use of the lancet or leeches.

ART. VIII.—*Extracts from the French Journals; translated for the "New-York Journal of Medicine,"* by H. N. BENNETT, M. D.

On diseases of the Vulvar Follicles, and of the Vulvo-vaginal Gland, and their treatment. By P. C. HUGUIER, Surgeon to the Hospital Beaujon.

I.—DISEASES OF THE VULVAR FOLLICLES.

THE study of the diseases peculiar to the sebaceous and piliferous follicles of the vulva is not destitute of interest. It is especially in view of the differential diagnosis, that it acquires an incontestable practical importance. It will serve us, furthermore, as a sort of necessary introduction to the more complete examination of the affections to which the vulvo-vaginal secretory apparatus is often subjected.

§ 1. *Surgical anatomy.*

It is convenient to divide the glandular organs of the vulva into two distinct classes; in the first, we place the sebaceous and piliferous follicles; in the second the muciparous glands. This anatomical distinction

is sufficiently justified by differences of structure and by differences of function.

1. *Sebaceous and piliferous follicles.*—The sebaceous follicles are found upon the mons veneris, the greater and lesser labia, and about the genito-crural folds. Those of the labia majora present two varieties; some, more numerous here than elsewhere, are simply secretory, whilst others are at once secretory and piliferous, that is to say, that from their centre rises a hair more or less developed, which is constantly lubrified by the product of secretion, furnished by the follicle to which it owes its origin. These different sebaceous follicles produce a thick, whitish, unctuous matter, of a most penetrating odor.

The sebaceous follicles are true glands, as we have already demonstrated. Those which are found upon the lesser labia, and which are destitute of hairs, are situated in the texture of the mucous membrane, or immediately beneath in the cellulo-vascular tissue intermediate to the two mucous sheets. They are here so numerous, that it would be difficult to find a space of a line or a line and a half destitute of them.

These follicles, more developed in females whose labia minora are voluminous and projecting, have the volume of a grain of millet. They are of a yellowish grey, or even altogether yellow, as is easy to determine through the mucous membrane having become thin and semi-transparent in consequence of its contact with the air. The matter secreted by these sebaceous follicles, serves by its unctuous properties to keep up the humidity, the pliability, and special sensibility of the external genital organs, at the same time that it protects them from the irritating contact of different liquids, such as the urine, the vaginal and uterine fluids. When the sebaceous follicles acquire a volume more considerable than that which we have indicated, when they equal in size, for example, a grain of hempseed, they may be considered as diseased, because they are evidently hypertrophied.

2. *Muciparous glands.*—The follicles destined to secrete the mucus which lubrifies the entrance of the vagina, are found principally in two conditions. In the one, they are scattered here and there, disseminated, placed one by the side of the other, or else grouped, united in patches. To these may be given the name of isolated or agminated muciparous follicles. In the other condition they are united, placed in juxtaposition with one another, and enveloped in a common membrane. Besides, they terminate in a unique excretory canal. Their aggregation forms, consequently, a glandular body, to which has been given the name of vulvo-vaginal gland. We proceed to examine separately these two distinct forms of the secretory apparatus of the genital organs of the female.

A. *Isolated muciparous follicles.*—They are more especially apparent upon three or four points of the vaginal orifice. Some of them, to the number of eight or ten, are found at the vestibule, others are situated about the meatus urinarius, upon the anterior tubercle of the vagina. As they are often agminated, they have taken the name of the *female prostate*, from the description of René de Graaf. The existence of these muciparous follicles has been brought to light anew by M. Robert. More numerous than the preceding, they are more deeply situated; and their orifice, masked by the anfractuosities which the median tubercle very often presents, may escape an imperfect examination. They are directed parallel to the canal of the urethra, under the mucous membrane of which they are sometimes discovered. They are more agglomerated than the follicles of the vestibule; in some cases several of them have a common excretory canal, giving them a ramose form. When these muciparous glands are inflamed, their orifice of a lively red, forms about the meatus urinarius a sort of punctated line, having the form of a horse shoe, the concavity of which looks upwards.

According to Haller, there exist also upon the sides of the urethra other more superficial follicles, several of which have a common orifice placed at the bottom of a conical depression. These latter have not appeared to me constant, although they have been demonstrated anew by M. Robert.

Lastly, some females present also upon the lateral parts of the vulvar orifice, immediately beneath the hymen or the superior myrtiform caruncles, one, two, or three voluminous follicles, already described by Morgagni, and which must not be confounded with the vulvo-vaginal gland, of which we are about to speak.

B. *Vulvo-vaginal gland.*—This agglomeration of muciparous follicles, already pointed out by J. Duverney, and G. Bartholin (1677), and afterwards by other anatomists, has been on my part the object of new researches. It is situated upon the limits of the vulva and vagina, towards the lateral and posterior parts of this latter passage, about a centimetre above the superior face of the hymen or the myrtiform caruncles, in that triangular space formed on each side by the union of the rectum and vagina. Placed in the interval which lies between the two aponeurotic laminæ, superficial, and at the middle of the perineum, it is distant from the internal face of the ascending branch of the ischium, from a centimetre to a centimetre and a half, according to its volume; from the free border of the great labium, from two to three centimetres according to its volume; and from the genito-crural fold, a centimetre only. In

females who have this gland very much developed or engorged, it is sufficient to feel with care the internal and inferior part of this fold, to recognize it in the midst of the other soft parts. As it is found placed upon the track of the transverse line which separates the ano-perineal region from the vulvar region, the lateral and anterior part of the perineum must be sought, when we wish by a simple exploration to recognize its volume, and to judge if it is in the normal or hypertrophied state. The vulvo-vaginal gland of the two sides varies in its configuration, its volume and situation, so that there is no possible symmetry. It is seen more commonly under the form of an apricot stone; it resembles, consequently, in some measure the Jachrymal gland. There are, besides, very notable differences in the configuration of the vulvo-vaginal gland in different subjects, especially in females who have had several children. According to our observation, its maximum of development occurs from the sixteenth to the thirty-eighth year.

From this gland arises an excretory duct, the anomalies of which are still more frequent than those of the gland itself. Arising from the glandular tissue, it passes obliquely from below upwards, from behind forwards, and from without inwards. Scarcely a fourth of a millimetre in thickness, its walls are so thin, supple, and transparent, that they collapse upon themselves, and are confounded with the surrounding soft parts. The length of this canal is variable; we may estimate it in the mean according to Morgagni and Tiedemann, at seven or eight lines. Whenever, therefore, the stylet will penetrate it from eleven to twelve lines, as M. Robert has indicated, it is diseased. Its diameter is from one to three millimetres, and it opens at the vulva upon a level with the re-entering angle, which the great circumference of the hymen forms with the vulvar opening in virgins, and with the angle of reunion of the lateral and posterior base of the myrtiform caruncles with this same vulvar opening.

It is not then towards the middle of the lateral parts of the entrance of the vagina, as some have said (Huschke and Soemmerring), but rather at the union of the posterior with the two anterior thirds, that its orifice must be sought. This does not open perpendicularly to the mucous membrane, but rather obliquely from below upwards and from without inwards, so that the mucous membrane appears to form at its inferior and external semi-circumference a sort of valvular fold.

This anatomical disposition explains how this orifice may escape observation, if care is not taken to glide the finger over the vulvar mucous membrane downwards and outwards to render it a little patent. Sometimes, even, it is difficult to discover the opening of the duct; in this

case a slight pressure made from below upwards, and from without inwards, upon the gland and upon the duct, causing a certain quantity of mucus to flow out, is sufficient to expose its position. An Anel's stylet, very fine and curved, may be afterwards employed to perform catheterism. The vessels and nerves of the vulvo-vaginal gland, arise from the same branches which are distributed to the vulvo-vaginal orifice and to the clitoris.

§ 2. *Of inflammation of the vulvar follicles.*

[A translation of this section of M. Huguier's essay having appeared in this journal, the reader is referred to vol. ix. N. S., page 263.]

II.—On Diseases of the Vulvo-vaginal Gland, and their Treatment.

Placed in the most favorable circumstances, having directed for more than five years an important service in the hospital of Loursine, we have had frequent occasion to observe the different affections of which the vulvo-vaginal gland and its appendages are the seat.

The diseases with which this gland may be affected, may be ranked in two distinct classes; the one comprising lesions of sensibility, which promptly produce disturbances of the circulation and of nutrition; the other having connection with alterations of the humors, with a specific cause, the venereal virus, for example. In the first class we place all lesions which depend upon a greater or less stimulation or irritation: such as, *simple hypersecretion; muco-purulent hypersecretion; chronic engorgement or inflammation; induration and fibrous degeneration of the gland; acute inflammation of the follicular body; abscesses of its parenchyma; abscesses of its excretory canal; cysts of the glandular apparatus.* To the second class belong syphilitic affections, such as *venereal blennorrhagia; chancres; venereal abscesses and vegetations.*

This list sufficiently points out the number and the importance of the diseases of which the vulvo-vaginal gland may be the seat. We have given a complete description of these affections, yet little known, in our memoir read to the Academy of Medicine; we shall limit ourselves here to the presentation of the most interesting peculiarities which several of them present in a practical point of view.

§ 1.—*Inflammation and abscess of the excretory duct.*

When inflammation of the excretory duct of the vulvo-vaginal gland supervenes, it exists very often upon both sides at once. This inflamma-

tion is ordinarily the result of a blennorrhagia, of superficial irritations of the vulva, of a simple or purulent hypersecretion.

The orifice of the excretory duct being obliterated, or insufficient for the outlet of the pus, in the space of a day or two we see supervene without much pain, an elastic tumor fluctuating in its whole extent. With the exception of the gland itself, situated without and beneath the tumor, and which is frequently engorged, we find neither resistance nor induration at the base of the tumor or in the neighboring parts. The volume of the abscess varies from that of a hazel-nut to that of a very small walnut; it is only when there exists at the same time a phlegmonous inflammation of the great labium that the tumor presents a greater development.

The purulent collection is situated in the substance of the nympha, at the union of its inferior with its two superior thirds, or towards the inferior extremity of this membranous fold, at its point of junction with the great labium. This portion of the nympha is then unplaited, effaced, so that it appears shorter than that of the opposite side. The abscess projects outwards and above the corresponding caruncles. Often it cannot be seen except upon turning the great labium outwards.

After ten or twelve hours the pus reaches the mucous membrane, which it raises and distends. It may then happen that the pus can be seen beneath that portion of this membrane, pale and transparent, which is most raised and compressed by the tumor. It is not rare, even, to see it form a conoid or mamillary eminence, which is detached from the rest of the tumor. From this time the spontaneous opening of the abscess is imminent, and may happen at any moment under the influence of a little sudden motion. This opening takes place almost always in the neighborhood of the orifice of the duct, at a distance of twelve or fifteen millimetres downwards and outwards, at the base and at the internal face of the nympha; in some very rare cases, upon the free border of the latter, and at its inferior extremity, but never at its external surface.

When the extremity of the excretory duct is not completely closed, and the muco-pus can yet escape exteriorly, the spontaneous opening of the abscess may be deferred for two, three, and even four days. This circumstance has led some surgeons to say wrongly that purulent collections of the vulva open by an extremely fine passage, scarcely visible, although this natural opening differs entirely from that which results from the establishment of a vulvar fistula.

If the orifice of the excretory canal remains permeable after the abscess has opened spontaneously, pressure made upon the already

shrunken tumor causes the issue of the purulent liquid by two points at once,—the accidental opening and the excretory canal. In sounding the *foyer* by the accidental opening, after having explored its spheroid cavity, the extremity of the stylet may be made to pass by the orifice of the duct, and *vice versa*.

Finally, we have, observed, several times, the evacuation of the pus not by an accidental opening, but by the excretory duct increased by dilatation or ulceration; it is then, above all, that the mucous membrane of the nympha is singularly distended, without participating in the inflammation of the duct.

The pus furnished by the abscess of the excretory duct of the vulvo-vaginal gland is whitish, greyish, or greenish, very viscous, thick, roping between the fingers like the nasal mucus; or else it is soft to the touch, of a milk white, and resembles very nearly very liquid fresh cream; it contains, evidently, a certain quantity of mucus, which sometimes is clear, diaphanous, and is very distinct from the purulent globules and flocculi. Besides, this pus is always in small quantity; it would scarcely fill a coffee-spoon, and never has the repulsive odor of pus proceeding from abscesses of the mouth and of the neighborhood of the anus.

The progress of the disease depends upon the characters with which it is manifested. When the purulent collection advances by the natural orifice, as the pus escapes only very slowly, and in feeble quantity, and as, in fact, the most dilute parts of the liquid escape from the tumor, the abscess persists with all its characters during five, six, or seven days, and sometimes more. Afterwards the tumor diminishes gradually in volume, becomes less red, less fluctuating, less sensitive to the touch; pus is replaced by mucus; the cure takes place. When some irritation or inflammation remains in the glando-follicular apparatus, the abscess is converted into a simple hypersecretion, or into a purulent hypersecretion, which may of itself, from time to time, under the influence of a local irritation, be followed by the formation of an abscess of the same kind, or by a parenchymatous abscess of the gland.

§ 2. *Inflammation and abscess of the vulvo-vaginal gland.*

These diseases are less frequent than the preceding, and they occupy, ordinarily, only one side at a time. Among the causes most liable to produce inflammation of the vulvo-vaginal gland, we may mention excessive fatigue, prolonged walking, the extension of a blennorrhagic inflammation, but above all, the first conjugal relations, especially when they are repeated with excess, and when they coincide with the menstrual epoch, or one of the causes above indicated.

The female soon feels an uneasiness and smarting at the entrance of the vagina, sometimes of the whole vulva, most often upon one side only. This state is ordinarily accompanied by a sensation of heat in the part, and sometimes even by smartings and slight pains in urinating; afterwards the pain augments, a slight tumefaction of the great labium supervenes, and a tumor is felt in the substance of this organ, which is firm, and more or less sensitive to pressure.

The pain does not exist alone in the tumor, it is propagated towards the ischium, the urethra, the lateral and anterior parts of the anus, and even to the groin. Walking, micturition and defecation augment it in a sensible manner, and even develop it where it did not before exist. If this tumor is mistaken or neglected, it may terminate by the formation of a purulent collection, which, by reason of its peculiar characters, it is proper to divide into two species, according as the pus is developed in the parenchyma of the vulvo-vaginal gland, or in the intergranular cellular tissue. In the latter case there are formed as many little *foyers* as there are granulations, the cavity of each of them being filled with pus.

I designate the first of these conditions under the name *parenchymatous abscess*, and the second under that of *granular abscess*, or multilocular.

The parenchymatous abscess differs from the abscess of the duct, inasmuch as it is more profoundly situated, and nearer the ramus of the ischium; it is placed a little lower in the great labium, of which it occupies positively the inferior extremity, which is elongated, and descends lower than that of the opposite side, which is not the fact in reference to abscess of the duct.

In the parenchymatous abscess, the fluctuation does not become sensible until after six or seven days, dating from the commencement of the disease; it is perceived at first at the centre only, and towards the internal part of the tumor, the other parts remaining firm and resistant. In abscess of the duct, fluctuation is sensible from the first or second day, and in the whole extent of the abscess. The parenchymatous abscess presents a more considerable volume, and deforms the vulva more; its spontaneous opening is more tardy, and the cicatrix which results from it is scarcely visible, whilst the abscess of the duct leaves a loss of substance having the form of a sort of oval fossette. In the parenchymatous abscess, the pus rarely escapes by the orifice of the excretory duct, whilst this may take place in abscess of the canal itself.

When the *foyer* which results from a parenchymatous abscess is sounded, the stylet, instead of remaining at the entrance of the vagina, under the mucous membrane of the nympha, engages more profoundly,

and encounters resisting parts formed by the glandular tissue. The cavity of the abscess, instead of being regularly rounded in vesicular form, smooth and polished, as in abscess of the duct, is unequal, mamelonnated, and granular. The parenchymatous abscess is more painful than that of the duct; it may even be accompanied by a general reaction, but it never simulates a vulvar fistula, like abscess of the excretory canal.

These differential characters persist even after recovery; because, in abscess of the vulvo-vaginal gland, a hard, resistant nucleus is still felt for a certain period in the midst of the soft parts, between the ramus of the ischium and the postero-lateral part of the entrance of the vagina, which is the remnant of the engorgement of the gland, a thing which does not exist in simple abscess of the duct.

§ 3. *Treatment of inflammations and abscesses of the vulvo-vaginal secretory apparatus.*

Emollients and antiphlogistics are the first means. If the inflammatory engorgement of the gland is acute, two or three applications of leeches, seven or eight in number, should be prescribed at intervals of one or two days. They should be applied at the internal face and at the base of the labium. In the rare instances in which there is very marked general reaction, we may have recourse to bleeding from the arm. When the pus is already formed, the surgeon will proceed in the following manner; if the abscess is of the granular kind, it is sufficient to continue the local antiphlogistics and to press the gland very lightly, morning and evening, in order to unload the granulations of the pus or muco-pus which they contain. This pressure should be slight, directed from without inwards and from below upwards, pressing upon the external face of the labium. Similar pressure, but directed from above downwards and from without inwards, should be made with the aid of one or two fingers introduced in the vagina.

In abscess of the excretory canal, it is necessary, if the orifice continues closed, to endeavor to render it permeable in all its extent, in order that the pus may find an easy exit under the influence of slight pressure made upon the tumor. In cases where, for some reason or other, this evacuation cannot be obtained, it is necessary, avoiding the natural orifice of the duct, to make with a very narrow bistoury or lance a small opening two or three lines broad, at the inferior part of the abscess, towards the external extremity of the canal. By this method the pus is easily evacuated; the duct resumes its normal dimensions; the edges of the wound made in the mucous membrane unite by the second intention; those of the little wound of the canal cicatrize at the same time, and

the patient is cured without a fistula. This little incision of the *foyer* should be made at the internal face of the great labium, towards its point of union with the inferior extremity of the nympha, or a little beneath this point.

But when we have to treat one of those *abscesses of repetition*, as they have been called, which supervene almost regularly at each menstrual epoch, or under the influence of sexual relations which may be, contrary to the will of the patient, too often repeated, it should be opened largely; in this manner the continuity of the sac formed by the duct is destroyed, and all ulterior accumulation of purulent liquids is impossible. The indication remains the same in cases of definitive obliteration of the orifice of the excretory canal. This large incision should be directed vertically, following the direction of the great axis of the labium, and as much as possible approximating the fold which separates the nympha from the great labium. It should be made to incline principally upon the inferior part of the external or glandular extremity of the duct, and to terminate with a slight inclination in the inferior extremity of the great labium. It is important to proceed in this manner in order to prevent both the retention at the bottom of the wound of the mucus secreted by the gland, and the introduction of the genito-urinary fluids.

After the opening of a parenchymatous abscess, the cure takes place in the following manner. If an extent of two or three centimetres has been given to the wound, at the end of a few days, the bottom of the abscess is pushed from within outwards by the soft parts which are beneath it, as far as to the surface of the vulvar mucous membrane; it soon reaches its level or even passes it, contracts adhesions with the edges of the wound made in this membrane; from thence a red, convex patch, covered with fleshy granulations, which are soon converted into a mucous membrane of new formation. This patch, ordinarily of an oblong form, at first red and prominent, is slightly depressed and paler after five or six months. It is easy to determine its adhesion with the vulvo-vaginal gland.

§ 4. *Cysts of the vulvo-vaginal glandular apparatus.*

In thirty-four cases which I have collected, the cysts were seated twenty-nine times on one side only; eighteen times upon the left, eleven times upon the right, and five times in the two labia majora. These tumors were constantly formed at the expense either of the gland, or of its excretory duct, consequently having the same seat as abscesses of the canal or of the vulvo-vaginal gland. We have found only two

exceptions to this general rule. Most often the cyst is developed in one of the granulations of the gland; this granulation is more or less dilated, and has ceased to communicate with the excretory duct. In other cases, we find four or five granulations enlarged in different degrees, from the volume of a small pea to that of a raisin seed, and without any communication either with one another, or with the excretory canal.

Sometimes the cyst is formed at the expense of the excretory canal, the orifice of which is found naturally or accidentally obliterated; the mucus after having by its accumulation dilated the canal, distends gradually its different ramifications and afterwards the granulations which are situated at their extremity, and we find a ramified, appendiculated cyst of the oddest form. The state of the soft parts permits vulvo-vaginal cysts to preserve for a certain time the spherical or oval form which they have for the most part at their origin; it is only later, and when they send out prolongations in different directions, especially along the walls of the vagina and rectum, that their primitive form is altered.

The cysts which we are considering, although seated in the same region, have not a position identically the same. Some of them, and they are the most numerous, are situated immediately beneath the mucous membrane or only a few millimetres in depth; they have then for their seat the excretory duct or the granulations nearest the vulva. Others are situated near the tuberosity of the ischium, its ascending branch, and the inferior extremity of the vagina; these cysts are developed in the external and superior parts of the glandular body, or in its accessory granulations.

Vulvo-vaginal cysts in general produce very few functional derangements, and these are not at all constant; they occur only in cases where the cyst being very voluminous, distends the tissues and compresses the neighboring organs.

In some females, however, at the menstrual epoch, the cyst becomes the seat of a turgescence, of a sanguine congestion which increases its volume and sensibility to such a degree as to awaken the attention of the patients, and afterwards all disappears with the menstrual discharge.

In other cases the cysts become more painful and more voluminous after an excessive fatigue or excesses in coition. If these causes continue, a true phlegmasia may attack the walls of the cyst and the surrounding cellular tissue, producing engorgement, inflammation and abscess of the vulvo-vaginal gland. If the walls of the cyst inflame at the same time and secrete pus, we have then a disease which partakes both of the nature of a cyst and abscess.

§ 5. *Treatment of vulvo-vaginal cysts.*

Whether the symptoms of irritation or inflammation have preceded or followed the evolution of the cyst, it is well to have recourse in the first place to emollients, and to local antiphlogistics. Under the influence of these simple means, we have seen two small cysts disappear in the space of a month; but in other cases, it is necessary to have recourse to surgical means.

Simple puncture is only a palliative, unless the tumor be very small; it will serve above all as a useful element of diagnosis. To obtain a definitive cure, it is necessary here, as elsewhere, to treat the cyst by extended incision of its walls. This incision should be from three to four centimetres in length, directed parallel to the great diameter of the labium, and made, in order to render it less visible at the base, either of the nympho-labial fold, or of the genito-crural fold, according to the part of the glandular apparatus which is the seat of the affection. The cavity of the cyst should afterwards be filled with lint dry or covered by a thin coat of styrax, of oil of aloes, or of basilicon ointment, according to the degree of inflammation which it is thought necessary to produce.

Such is my ordinary practice upon females who are averse to the employment of instruments; but when I have to deal with more courageous, more resolute natures, I pursue the course of M. Boys de Loury for other vulvar cysts; I make scarifications in the walls of the cyst, or else seizing here and there a portion of these walls with the forceps, I dissect out several shreds.

Cysts of ordinary volume and not exceeding that of a large nut, have been very often treated by me at the hospital, in the following manner: An incision having been made in the tumor, I cauterize immediately its cavity either with a crayon of nitrate of silver, or with a pencil wet with acid nitrate of mercury, according to the thickness of the walls of the cyst.

By treating according to the rules which I have laid down, cysts of the glandular apparatus of the vulva, that is to say, by joining partial excision with incision, or else cauterization, there is no fear of relapse; it has been wrongly asserted, therefore, by a modern author, speaking of cysts of the vulva in general, that all cysts of this region ought to be completely extirpated.

PART SECOND.

CRITICAL ANALYSIS.

ART. IX.—*Letters on Syphilis: addressed to the Chief Editor of the Union Médicale.* By PH. RICORD, Chirurgien de l'Hôpital du Midi, &c., &c. With an Introduction, by AMÉDÉE LATOUR, Rédacteur en chef de l'Union Médicale, &c. Translated by W. P. LATTIMORE, M. D. Philadelphia: A. HART, late CAREY & HART, 1852. 8vo., pp. 270.

THERE have been no less than three separate translations of these celebrated Letters of Ricord on Syphilis, in the course of publication in this country, during the past year. Of these, first in the field and earliest in its completion, is the translation of Dr. Lattimore. It is unnecessary to speak of the comparative merits of these several translations as far as they have progressed; it will suffice for our present purpose to say, that the translator of the work in hand has performed his part to our entire satisfaction. He has rendered an essential service to the profession by their publication in the permanent form of a volume.

These letters originally appeared in the columns of the Union Médicale, of Paris, during the years 1850 and 1851, and met with great favor at that time. They were designed to present anew the doctrines of the great founder of the modern views of syphilis, and defend them from the united and powerful assaults of certain French and German surgeons. The epistolary form was chosen as that best adapted to "liberty of style and spontaneity of thought," and we may add, to the spirit of controversy. We recall with pleasure, the fact, that this is not the first attempt to treat a scientific subject in the epistolary form of discussion, but we doubt if it was ever done more successfully. The collection opens with

an introductory letter from the Editor of the Journal in which they were published, expressing in a sprightly and vivacious manner, his sympathy and gratulations.

In his first letter, after propitiating the favor of the Journalist, Ricord proceeds to speak briefly of the confused opinions prevailing among those who made syphilis a special study, at the time of his admission to the *Hôpital du Midi.* "Every where" he says, "doubt had displaced belief. There was doubt concerning the cause of syphilis, doubt concerning its effects, and, as a consequence, doubt in relation to its therapeutics." To resolve these doubts, and arrive at some definite conclusions, he set himself first to investigate the cause of syphilis.

"Had it a special virus? Or, were venereal accidents the result of a common cause? For this research and this study, *two methods* of observation presented themselves to my mind. The *first* was the pure and simple observation of phenomena—a method practised by our predecessors, but which had conducted them to such contrary opinions. This method was followed by Devergie, and is not unlike that adopted by Vigaroux, by Blegny, &c., in their report, for example, of three officers, all of whom, having connection with the same young girl affected with a discharge, became infected—the first with a urethritis, the second with a chancre, and the third with warts. It is true that Devergie failed to afford information on one small point, that of the precise state of the young girl, whom he did not examine with the *speculum.* Evidently, this mode of investigation was worn out, and could conduct only to vagueness and confusion.

The *second method* was more satisfactory to my mind; it was more in accordance with the demands of modern science; it seemed to me to open a sure way to the study of the cause of syphilis, and of necessity to lead to incontestable results; I speak of *experiment.* I laid down for myself the following conditions:—To obtain the syphilitic virus from a known source. To place it upon a region of the body open to observation; to note its effects.

But experiments had been performed, and had led to very contradictory conclusions. Satisfied, however, "that a series of well-conducted experiments must lead to precise results," he was not disheartened by the dissensions of experimenters. In studying the mode of experimenting, he was led to resolve upon inoculation, and clinical observation taught him that the subject might safely be the patient himself. In proceeding to his investigations, he resolved to demonstrate every point, and trust nothing to the statement of patients,—a fruitful source of error to his predecessors.

"It was, then, no longer possible to think of founding any pathological truth whatever, in regard to syphilis, upon the truth of the testimony of

patients; I had no more confidence in doctrines and facts, based upon recitals of this nature. It was necessary to dispel the mysteries of the closet, in order to expose to the broad light of day the cause which I sought. Where ought I first to seek the cause? At the very source: that is to say, in the genital organs of the woman—as well in their deepest folds as in their external parts. Fortune favored me. The *Hôpital du Midi*, at that time, received in its wards the unfortunates sent from the Dispensary.

"Here, my dear friend, permit me to remind you that, previous to my entering the *Hôpital du Midi*, the manner of examining a woman consisted in seating her on the edge of a chair, and in separating the external organs of generation; and, if no lesion of tissue was found there, every morbid secretion coming from above the vulva was referred to a blenorrhagic discharge. With respect to chancre, my predecessors appeared to have placed at the vulvar ring the pillars of Hercules."

Unsatisfied with such superficial examinations, Ricord resorted to the speculum, then but recently employed by Récamier in the diagnosis of diseases of the uterus, to explore the recesses of the vagina; and to the revelations of this instrument he frankly acknowledges much of his success in resolving the doubts and difficulties of his predecessors, and establishing the rational views of syphilis, which now generally obtain.

Having thus surveyed the field of his future labors, and marked out the plan of his operations, and chosen the instruments to be employed, our author set himself resolutely to the task of its cultivation.

"I commenced with blennorrhagia. You understand, my dear friend, that I ought to suppose my readers perfectly acquainted with the state of the question concerning blennorrhagia at the time when I undertook my observations. Again I assert I do not here write volumes of a complete history, but a simple and rapid exposition of facts observed by myself. I sought to solve by experiment this problem, already solved in various ways by the observations with which you are acquainted. Does blennorrhagia recognize a specific cause? Hunter had learned that the pus of chancre, when inoculated, produces chancre. I said, if blennorrhagia recognizes a specific cause, the muco-pus which it secretes, will, undoubtedly, when inoculated, produce phenomena similar to those produced by the inoculation of chancrous pus. But, in order to get accurate results; in order to isolate the question from every complication, and to remove every cause of error, I ought, first of all, to inoculate the muco-pus coming from perfectly simple blennorrhagia, to take this muco-pus from surfaces perfectly free from every ulceration. You thus see how precious to me was the employment of the speculum; without it, these experiments were impossible.

"Now, these experiments, made in great number, and a long time continued, first conducted me to this fundamental result, which I present in the form of a *proposition*:—

"EVERY TIME THAT THE MUCO-PUS HAS BEEN TAKEN FROM A NON-

ULCERATED MUCOUS MEMBRANE, THE RESULTS OF INOCULATION HAVE BEEN NEGATIVE.

"Every experimenter who has followed me in this path has arrived at the same conclusion, and that, too, whatever may have been the duration of the blennorrhagia when the experiment was made."

The second conclusion which Ricord draws from his experiments is, *The blennorrhagia whose inoculated muco-pus gives rise to no result, does not recognize the syphilitic virus for a cause.* He thus comments on this proposition:

"It would not be at all improper to admit a special cause, having the specific power constantly to produce blennorrhagia and its consequences. In fact, nothing is better adapted to induce a blennorrhagia than the muco-pus furnished by certain inflamed premucous membranes.

"But when we go back in the most rigorous manner, and with the severest criticism, to the determining causes of the best characterized blennorrhagia, we are forced to acknowledge that a blennorrhagic virus is most usually wanting. Nothing is more common than to find women who have communicated blennorrhagias the most intense, the most persistent, leading to *blennorrhagic* consequences the most varied, and of the gravest character, who were only affected with uterine catarrhs, which sometimes were scarcely purulent. In other cases, the menstrual flux seems to have been the only cause of the communicated disease. Finally, in a great number of cases we find nothing at all, or only simple changes in diet; fatigues; excesses in sexual connection; the use of certain drinks—beer; of certain food—asparagus. From this arises that frequency of belief on the part of patients, a belief very often legitimate, that they owe their clap to a perfectly healthy woman.

"On this point I assuredly know all the causes of error, and I have the pretension to say that no one, more than myself, holds himself on his guard against frauds of every kind, scattered in the path of the observer; but it is with knowledge of the cause that I advance this proposition: *Women frequently give blennorrhagia without having it.* Blennorrhagia, such as some persist in understanding it (that is to say, as a consequence of contagion), is as rare in woman as it is frequent in man. I do not think I go too far in saying that women give twenty claps for one which they receive. And this is easily understood; for women, so subject to discharges from the genital organs, which one cannot attribute to syphilitic causes, are the most frequent source of those discharges in men which can be attributed to contagion."

The study of blennorrhagia will lead the candid and unprejudiced observer to admit, "that it is frequently produced under the influence of most of the causes which determine inflammations of other mucous membranes." On the authority of twenty years' experience, our author affirms that, "excepting blennorrhoidal discharges symptomatic of chancre, it is often wholly impossible to recognize the cause of a discharge,"

but the most special agent is the muco-pus of the inflamed genito-urinary mucous membranes.

"Thus far, then, and this is really my opinion, simple blennorrhagia is completely distinct from syphilis, so far as relates to the causes which produce it.

"But, by way of objection, it is said the pus of chancre can produce blennorrhagia. This opinion is very ancient; it has been maintained since the first appearance of the pox in England, and very beautifully can it be maintained now. But what does the statement imply? Do we depend on the observations of the ancients? These are incomplete and insufficient; it is impossible with them to proceed scientifically from cause to effect. Would one make experiments similar to those of Harrison, who believed in the production of blennorrhagia from the introduction into the urethra of the pus furnished by a chancre, without knowing what it had physically produced? No! but more simply and more logically we will conclude on the possibility of the production of a non-virulent blennorrhagia by the pus of a chancre, in considering this pus, as has been done before me, as acting in the manner of a simple irritant. A woman having chancre at the inoculable period may thus determine in a man a blennorrhagia which will not inoculate. We may thus explain the observations of Swediaur and others, supposing they made no error in diagnosis, seeing that they used neither the speculum nor inoculation; observations proving that men, affected with chancres, have communicated blennorrhagia to women.

"Here is what clinical observation teaches, and what experimentation can demonstrate. It is not rare to see patients who, at first affected with a chancre of the glans or prepuce, are successively seized with a balanitis or a balano-posthitis determined by the irritating action of the pus of the chancre. But then, while the chancre furnishes inoculable pus, the balano-posthitis does not. (Hereafter we shall see that, in order that the pus of chancre may act specifically, conditions are necessary which are not always present.)

"Adhering, then, to my first conclusion, and reducing to their just value these primary objections, I affirm that, when Harrison produced blennorrhagia with the pus of chancres, this pus either acted in the manner of simple irritants, or it produced a urethral chancre; this fact he did not verify. In the same way we shall see that, when Hunter produced a chancre with the pretended pus of a blennorrhagia, it was with the product of a veritable urethral chancre that he had to deal."

"Incubation has been made a condition of virulence," in regard to which Ricord holds the following language:

"What is this incubation of blennorrhagia, which I have been forced even recently to deny? We must understand it; it is a pure question of words. I do not deny that, between the action of the cause and the appearance of the first symptoms of blennorrhagia, there elapses a longer or a shorter period; but is this an incubation properly so called; an in-

cubation similar to that of variola or vaccinia? I contest the fact; and I explain the longer or shorter period which elapses between the action of the cause and the appearance of the phenomena, by the condition, by the particular susceptibility of the tissues which have been exposed to the influence of the cause. There is no more incubation than there is between the action of cold on the feet and the appearance of a coryza. A person does not have a discharge of muco-pus from the nose immediately after the application of cold to the feet; a certain time passes between the two acts. Do you call this time the incubation of the coryza? Why, then, use a similar expression in relation to blennorrhagia?

"In those cases in which the blennorrhagia only appears a long time subsequent to the exposure to the presumed cause, is it not more rational to admit an unknown cause: a cause other than this pretended incubation, which nothing explains and which nothing authenticates? Is it not thus in nearly all inflammations? Is it possible always to arrive at the direct cause of a pneumonia, or of an arthritis, of a phlegmon?"

Thus far in regard to simple blennorrhagia: in Letter V. the author enters upon the consideration of that form of blennorrhagia which is followed by constitutional syphilis. His opinions upon this point, that blennorrhagias which give rise to specific symptoms are always associated with, and derive their virus from, concealed urethral chancres, are too familiar to those who have devoted any considerable attention to this speciality, to require any elucidation from these letters. The subject is treated with marked ability and success, although in the formidable array of talent still opposed to his doctrines, we may mention Vidal, Cazenave, Baumes, Diday, &c.

We shall conclude the subject of blennorrhagia with some remarks upon the diagnosis of simple from virulent blennorrhagia.

In the study of this diagnosis, it is important to establish two conditions: in the first place, diagnosis absolute, univocal, irrefragable; in the second, a rational diagnosis.

"The absolute diagnosis can only be obtained by artificial inoculation. Whenever the muco-pus furnished by a mucous membrane gives the characteristic pustule, which we shall soon examine in studying chancre, it can be affirmed, whatever may have been the duration of the disease, that this is virulent, that a chancre exists somewhere; the chancre alone being able to give rise to positive results from inoculation. Here is an incontestable fact established by my researches. Here is the absolute and univocal diagnosis in its utmost rigor. When you obtain, by inoculation of the urethral muco-pus, the characteristic pustule, assert boldly, and without possible error, 'It is a virulent blennorrhagia.'"

The following in regard to the rational diagnosis is important:

"As a general rule, it is the least violent, the least painful blennorrhagia, which should inspire the most dread of urethral chancre. The

duration of the discharge is a sign not to be neglected. In general, it is not those discharges which are most tenacious that cause us to fear urethral chancre. The nature of the secretion may prove of great value when we know how to appreciate it. The secretion which is the result of ulceration of the urethra is much less mucous than purulent; it is usually sanious, rusty, and charged with blood. The least pressure upon the urethra renders these characteristics very obvious. But to accord to this sign (the presence of blood) all its value, we must first be certain that the patient has not used a caustic injection; that no foreign body has been introduced into the urethra; that there has been no rupture of the canal in chordee; and especially that the sanguinolent matter has not been expelled with the last drops of urine, for in the last case the result would depend upon inflammation of the neck of the bladder with vesical tenesmus.

"I will not speak of the value of the urethral speculum in the diagnosis of ulcerations of this canal. It affords an ingenious method of diagnosis, but it has not proved so valuable as it was thought to be. It enables us sometimes to distinguish a chancre, even when situated at a considerable depth in the canal, through the facility it furnishes us of separating the lips of the urethra.

"Wedkind thought he found in the engorgement of the follicles in the neighborhood of the urethra, near the frænum, a sign of virulence; but these engorgements are usually only phlegmonous, and independent of other complication. The most important sign consists in the engorgements exhibited in the course of the urethra, particularly in the balanic region, the most common seat of the urethral chancre.

"I have already stated, it is not important so much to detect the presence of an ulceration, either by the aspect and nature of the secretion, or by inoculation, as it is to know if we have to deal with an ulceration capable of producing the syphilitic infection. This it is which all authors have had in view when they have spoken of virulent blennorrhagia.

"Well, as you will soon see, it is the indurated chancre which is the fatal antecedent of constitutional syphilis. Now, nothing is usually easier than to diagnose an indurated urethral chancre with blennorrhoidal symptoms.

"If there exists no blennorrhagic complication, the patients scarcely suffer during the emission of urine. The jet of urine is commonly diminished and twisted, on account of the diminution in the size of the canal. The erections are not painful when the chancre is in the balanic regions.

"To clearly determine the presence of these ulcerations, it is necessary to explore the urethra by means of pressure from above downwards, from the dorsal to the inferior face. In practising this manœuvre, we feel a more or less extended cord, which some syphilographists have designated the *balanic cord*. It is easy to determine, in the greater number of cases, the side of the canal on which the ulceration is seated. Independently of the well-defined indurations on one side, you see the affected side form a convexity, while the healthy side, in yielding, forms a crescent. When the pressure is made from side to side, the induration ceases to be appreciable.

"Undoubtedly, some engorgements of the balanic region, or of the follicles along the course of the canal, may be only the result of simple inflammation, without virulence. In these cases we must, in order to complete the diagnosis, have recourse to the accessories.

"Then, too, engorgements of the glands are rare in blennorrhagia non-symptomatic of chancre. When they do occur, as I have already indicated, they are acute, and terminate readily by resolution; or, when they suppurate, they furnish simple pus.

"In the urethral chancre, inflammations of the dorsal lymphatics and glands are much more common. If the chancre is non-indurated, they suppurate almost fatally; and when opened, they present incontestable characters of virulence. In the indurated urethral chancre, the adenopathies are fatal; several ganglia are seized at once; they remain indolent, and do not suppurate; conditions to which I shall hereafter recur.

"Finally, if all these conditions have not been appreciated; if these signs have not been understood, either because we have been called to the case too late, or because we have misunderstood them, we may be certain that, if the patient was affected with blennorrhagia symptomatic of chancre, six months will not elapse without the supervention of accidents, if the constitutional infection has taken place.

"We must next examine whether, in the last analysis, it is not better to wait, in order to make a late diagnosis, the expiration of this time, than to prescribe, during the same period, a mercurial treatment which, after all, does not give us certainty."

The treatment of virulent blennorrhagia is the severe and methodical treatment of syphilis. Depending upon no other virus than the specific cause of pox, it admits of no milder treatment than with antisyphilitic remedies. The following are the author's views of the treatment of simple blennorrhagia:

"I said that the abortive treatment of blennorrhagia was very innocent of the accidents which may be manifested during the course of this disease. Do you know, in fact, what statistics, ridiculously interpreted, teach in this respect? That the most frequent antecedent of epididymitis is flaxseed tea! On this point I possess imposing figures. The students of my clinique every day await, with merry impatience, this final question, which I never fail to address to a patient affected with epididymitis: but you have taken flaxseed tea? The response is inevitably affirmative.

"What conclusion is deducible from these figures and these facts? Evidently, that epididymitis, like the other accidents of blennorrhagia, is neither a repercussion, nor a metastasis, nor any of those chimeras by which some have sought to hinder the application of a speedy and abortive treatment of blennorrhagia.

"I am profoundly convinced, by observation and by long experience, that a blennorrhagia arrested during the early stage of its existence, is far from being followed by those accidents which excite the fear of some

physicians. On the contrary, the abortive treatment of blennorrhagia is the prophylactic treatment of the consecutive accidents. Thus, I have applied the abortive treatment from the first moment of the appearance of a blennorrhagia. This is a point of doctrine on which I cannot too much insist. The commencement of blennorrhagia is known; its termination and its consequences are always uncertain. Therefore, it is of the highest importance that the patient should be relieved as soon as possible of his discharge.

"In spite of an old prejudice, of which the practice of Bell has been the pretext, I believe, my dear friend, that injections, which form one of the most important parts of the abortive treatment, far from producing strictures of the urethra, as some have asserted and still assert, constitute the best prophylactic treatment of these strictures. We may be assured that the quicker a discharge is arrested, the less are organic lesions of the urethra to be feared. These lesions, as well as those of all other mucous membranes, are the consequence of the duration of the inflammation. I am quite aware that on this point statistics have been invoked, and that a goodly number of cases have been exhibited in which strictures have manifested themselves after injections. But the relations of this case remind us of flaxseed tea in epididymitis; because injections are found among the antecedents of stricture, we are not necessarily justified in concluding that a specific connection exists between them. Analyze these observations well, and you will see that the blennorrhagias were of long standing; that they had resisted all treatment, even injections. It is precisely because the injections had not cured the inflammation, that the stricture supervened."

In searching for the cause of syphilis, Ricord refuses to look to history. "Do not ask me to plunge into the depths of history. This descent I have often made, and I declare to you, my dear friend, my belief that in these depths it is impossible to find the truth. The deeper we descend, the less light penetrates the gloom, and finally the obscurity becomes complete. In this obscurity, authors merely grope along." He adopts the conclusion of Voltaire, that, like the fine arts, the origin of syphilis is unknown; leaving, therefore, this doubtful and unimportant question, he enters upon the far more practical discussion of syphilis as it actually exists. And first, he proceeds to consider the source of the syphilitic virus, and in defence of inoculation; as this is the subject of angry discussion in France at the present time, we shall give his views in his own language.

"The syphilitic lesion, the source of the secretion, which under favorable conditions produces the fatal phenomena we have just indicated, is the primitive accident, to which has been given the name of *chancre*—a name which it yet preserves. As I have already had occasion to say, whenever the surfaces, from which the morbid secretion has been taken, were visible, positive results have been obtained. These results have been reproduced only when chancre was present." * * * *

"Every time a secretion not taken directly from a primitive ulcer has produced a chancre, this secretion was furnished by a surface which could not be examined. The small number of apparently exceptional cases in which chancre has been reproduced with a purulent matter taken from a non-ulcerated surface, finds a rational and complete explanation in the facts analogous to those whose history I have related. How can it be supposed that the surfaces which it was impossible to inspect were not the seat of chancre, when the secretion they furnished was absolutely the same as that of chancre?

"If it were proved that the primitive ulcer, the essential source of the syphilitic virus, could only be seated on external and visible surfaces; that the depths of the urethra and the cavity of the uterine neck could not be the seat of these hidden ulcerations, the question would be settled. But does there exist a single writer on syphilis who denies the existence of the primitive ulcer in all these regions; one who does not know and who does not believe that all syphilitic ulcerations are not always visible? How, then, deny the possibility of the existence of the deep and hidden chancre, when it furnishes itself the most irrefragable proof of the fact; that is to say, the secretion?" * * * * * *

"But I am deeply surprised that the partisans of the syphilitic virus, those who claim for syphilis a specific cause, and for its virus a specific action, should maintain that with any pus, no matter what it be, effects can be produced analogous to those of the virulent inoculation *par excellence*. Do the advocates of this doctrine think that with any pus whatever vaccinia or variola may be produced? If we should furnish them with purulent matter for their experiments, with the origin of which they were unacquainted, what would be their criterion for determining its nature, apart from the effects which it should produce? And is it not by this means that I arrive at the distinction of the syphilitic pus?

"But to this objection relative to the inutility of inoculation, I have a further reply to make. I have inoculated the same patient, hundreds of times, with the pus of chancre, the pus of balano-posthitis, the muco-pus of urethral blennorrhagia, the muco-pus of blennorrhagic ophthalmia, and with the pus furnished by phlegmonous inflammations of other regions; and while the pus of chancre invariably produced chancre, the other kinds remained inactive. What other proof can be desired? and what solid objection can be urged against it?

"But it has been objected that the effects produced by inoculation on an individual already infected prove nothing as to the nature of the cause; in other words, that the inoculation of an individual with the secretion furnished by himself leads to no important conclusion, because, infection first assumed, every wound can and must become syphilitic.

"Here is a singular error, which may be attended with serious consequences; a dangerous prejudice, which we are astonished to see still brought forward by those who make pretensions to accurate observation. The facts I am about to mention demolish this objection completely. I well know that the cases of leech-bites, which have taken on the characters of venereal ulcers, have been cited. But be persuaded, my dear friend, that these bites, like every wound made in a syphilitic patient, be-

come venereal ulcers only in so far as they afterwards become affected by the contagion. Apply leeches where there is no contact of inoculable pus; bleed syphilitics as much as you will; make any experiment you please; and, if there is no virulent contact, virulent transformation will be impossible." * * * * *

"But in order that these results be invariably obtained, our reason assures us at once that the *virulent matter* must be taken from a chancre at a certain period; that is to say, at the period of progress. It is very easy to conceive this fact; and I am sure I shall not weary you in seeking to make you understand that, if you take the pus from the surface of an ulcer which is in the way of reparation and cicatrization, you will have a simple, inoffensive pus, which will give you negative results; and that the same accident, experimented on at two different stages of the disease, will lead to different results. You will conclude, then, with all candid observers, that there is no contradiction, no uncertainty, in the results of experiments; and that I have not resorted to evasion, to subtlety of doctrine, for the purpose of explaining facts which seem to bear against the principles which I maintain, and which are maintained by Bru. When Bru failed to inoculate the pus of chancre, it was for one of two reasons: Either he made an error in diagnosis, or he took the pus from chancres *at the period of reparation.* There is no way of escaping from this dilemma; for I repeat, and am ready to prove the fact to the incredulous, if any such there now are, *the pus of chancre is* INEVITABLY *inoculable.*"

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"You will yet allow me to say one word in relation to certain requisite conditions of the part about to be inoculated. Whatever this may be, whether skin or mucous membrane, or in whatever region of the body it may be found, all that is needed is a *slight solution of continuity, without the aid of physiological act, to produce the inevitable effect.* No persons, as in vaccinia and variola, prove *refractory* to this primitive accident; there exists no privilege of idiosyncrasy; a lancet charged with purulent matter reduces all to perfect equality.

"Thus, then, my dear friend, inoculation with pus from a primitive accident, from a chancre whose conditions I have just indicated, has always produced identical results, whether the subject of the experiment were the patient who furnished the pus, or whether, according to the practice of some experimenters, this pus were used to inoculate a healthy individual."

As to the question of the alleged difference between the natural and artificial contagion of syphilis, he continues:

"Observation and the rigorous analysis of facts demonstrate to those who do not permit themselves to stray either by reason of prejudice, or preconceived ideas, that the contagion of syphilis, in whatever circumstances it may act, is propagated by a process of inoculation more or less analogous to the way in which it is produced by the lancet. The accident (chancre) which, from the confession of all, is the most inevitably contagious, is inoculated by the lancet. By this chancre likewise, timely observations, carefully made, show syphilis to commence.

"Apart from the evidence of the fact derived from artificial inoculation, chancre is found to be developed everywhere, without choice of seat; on the whole periphery of the body; on the whole of the external integument, or on the internal as far as accessible; and consequently, as far as the parts subjected to the contagion, or those furnishing the infecting matter are concerned, there is no necessity for special functions or a particular physiological state. Other conditions are necessary for contagion.

"Examine with care all the parts which are affected, and you will find that they are those which present the most favorable conditions for mechanical lesions, for excoriations, for solutions of continuity of all kinds; you will find that the accident developes itself by preference where many and voluminous follicles exist, into which the virulent matter may be introduced.

"Is it not true that, in man, the border of the prepuce, particularly where there is more or less marked phimosis, the neighborhood of the frænum, the adherent points of the semi-mucous membrane of the glans and prepuce—points, which, not possessing the suppleness of other regions, are more readily torn; in the woman, the fourchette, the points of insertion of the nymphæ, the carunculæ myrtiformæ, are the points which by preference become contagious? In other regions, is it not also true that it is when excoriations exist that contagion is established? Thus, an excoriation of the finger is often the door by which syphilis enters. But the presence of the excoriation is necessary. If it were otherwise, would I ever leave the hospital without having a chancre on the end of every one of my ten fingers? Chancre frequently appears upon the lips, but the lips are almost always cracked; pleasure excites a smile, and the smile extends and dilates the lips. The nipples of nurses are often the seat of chancre; but these parts are usually cracked and torn. Chancre also takes up its residence wherever there has been a cicatrix; but in this case, too, there has been a loss of suppleness, which renders the production of cracks and excoriations easy.

"In all this, my dear friend, you see nothing which is physiological, as it has been said; nothing which demands particular vital conditions. You see no special state of the organism, nor the exercise of any specific function. For you, as for myself, the phenomenon is regarded as traumatic and mechanical."

The question of the contagiousness of secondary syphilitic accidents arises in this connection, and receives a most searching examination from the author. Although he does not positively deny its possibility, yet relying still upon the lancet as affording the only rational mode of investigation, he obtains only negative results. He has inoculated with the secretion of mucous papules, which are considered contagious by many, but never obtained positive results, unless, as occasionally happened, it was the seat of a progressive chancre. The spread of mucous tubercles to contiguous surfaces must depend upon the constitutional infection, acrid secretions, and a tendency of the skin in these situations to mucous transformation.

"I shall therefore remain convinced, until the contrary is proved, that when *mucous tubercles*, which have been admitted to be primitive, are believed to be contagious, there must have been an error in diagnosis. It may be useful to call to mind the fact that a chancre, at the period of reparation, often takes on the granulating aspect of mucous patches; that it sometimes undergoes a veritable metamorphosis, and becomes, *in situ*, a secondary accident, the nature and physiognomy of which are those of mucous patches.

"If its commencement has not been observed; if the evidence furnished by the neighboring ganglia has not been invoked, so modified may the remains of the margin of ulceration and the character of its base have become, as to render the differential diagnosis exceedingly difficult, especially to eyes unaccustomed to observe, and to fingers unskilled in manipulation. If to this difficulty, you add the fact that there are particular seats where primitive accidents are not usually observed, or where the transformation of the chancre is especially easy and rapid, such as the lips, the tongue, and the nipples, you will see how easy it is to be deceived."

The question of the transmissibility of secondary accidents from the nurse to the nursling, and *vice versa*, a point strenuously contested by his opponents, is thus considered:

"In consulting the archives of science, and seeking the basis on which the opinion of the transmissibility of secondary syphilitic accidents from the nurse to the nursling, and reciprocally, is found, we are astonished at the slight value of the facts which meet the eye, as well as at the meagreness of detail which has satisfied so many eminent men. M. Bouchut, for example, in a memoir recently published (*Gazette Médicale*, 20th April, 1850), has collected all the facts which appeared to him most positive. Now, read this work, in other respects interesting, and you will be convinced that the greater part of these assumed facts are inadmissible; that the observations which appear most conclusive are deficient in essential details, and are so incomplete that M. Bouchut himself is forced to acknowledge the fact; to such a degree, indeed, that he finally admits his conviction on this point to be rather moral than scientific.

"Here are my own observations on this point: I have seen instances in which the nurse and the nursling were mutually charged with propagating the infection. Generally, I have been able to go back to a primitive accident in one or the other, and thus find the regular starting-point. Sometimes, I have observed merely simple coincidences. In cases where it has been impossible for me to go back to the primary cause, the infants had been presented to me only five or six months subsequently to being placed with a nurse.

"For many years I had a ward of nurses at the *Hôpital du Midi*, where I often received women affected with simple leucorrhœas; I gave them infants to suckle, sent to me from the *Maternité*. These infants had secondary accidents; but never, so far as my observation extended, did these nurses become infected.

"On the other hand, nurses exhibiting very manifest secondary accidents, have given the breast to infants supposed to be affected with syphilis, but in which were observed, in reality, nothing but eczematous, impetiginous eruptions, or varieties of porrigo; yet in no instance did these infants become infected.

"My learned and illustrious friend, Dr. Nonat, who had for a long period the care of the nurses dependent on the administration of the hospitals, has arrived at the same conclusions; and he does not believe in the transmissibility of secondary accidents from nurse to nursling, and *vice versâ*.

"In my private practice, I have witnessed numerous facts of this kind. The following is one which I saw in connection with my friend, Dr. Chailly-Honoré. The subject was an infant born with an hereditary syphilis, in which, six weeks after birth, there supervened various accidents, mucous papules of the ano-genital regions, moist squamous papules of the body and members, and deep ulcerations of the lower lip. Well! this child was given to a nurse at the moment of its birth. We were able to observe both it and the nurse during the eighteen months that the suckling lasted. The ulceration of the lip lasted three months; this ulceration was scarcely cured, when, in spite of careful and prolonged methodical treatment, a new ulceration manifested itself upon the velum palati, which also resisted treatment several months. Now, this nurse remained free from all infection; she enjoyed, and still enjoys, perfect health.

"Certainly, this fact is well worthy of attention. I have just observed an analogous case with my associate, M. Bassereau; that of an infant, which, among other symptoms of hereditary syphilis, exhibited ulcerations of the lips. This child was suckled with perfect impunity by its nurse.

"You see, my dear friend, how important it is, in order fully to appreciate the value of such facts, to take into account all the conditions of the case with respect both to the nurse and the nursling.

"The nurse, when she takes an infant to suckle, may be under the influence of a syphilitic diathesis, which there is nothing to indicate. I ought to say that, when a nurse is received, she is not usually subjected to a complete and thorough examination. I may add that, though this examination were made, we might still be deceived, for the diathesis may exist when every trace of a primitive or successive accident has disappeared, especially when the chancre has occupied the neck of the uterus. I ought to add, still further, that the health of the foster-father is not always, alas! a sufficient guarantee that no disease exists. I have, for a long time, had my own opinion with respect to the proverb relative to the pure manners of the country.

"The nursling may be born with an hereditary syphilis. In the nurse and nursling there is yet no apparent disease. So that, though the infant may at birth appear healthy, yet some weeks or months afterwards, secondary accidents may be manifested. These may appear in the child, coincidently with, or subsequently to, a similar manifestation in the nurse. The one in whom the first manifestation occurs is sup-

posed to communicate it to the other; and frequently, indeed, they are reciprocally accused with imparting the contagion. Both parties are wrong. There is simply simultaneousness, coincidence; and, with attention and patience, the truth may be arrived at. It sometimes happens that nurses contract syphilis during suckling, in which case they may impart the disease from divers regions, oftenest from the genital organs."

The conclusion at which the author arrives in regard to the source of syphilitic virus is thus stated: "*Chancre (the primitive ulcer) at the period of progress, or of specific statu quo, is the only source of the syphilitic virus (the inoculable morbid poison).*" He contends for the unity of this virus, believing that the primitive cause is always the same, that its first action is local, and whatever varieties may appear in its development and progress depends upon conditions peculiar to each individual. Thus the primitive ulcer may be a "simple chancre, inflammatory chancre, with an evident tendency to gangrene, phagedænic chancre, indurated chancre."

Several letters are devoted to the study of this primitive ulcer, the indurated and non-indurated chancre. "The indurated chancre is to the pox what the *true* variolic pustule is to the variola; what the *true* vaccinal pustule is to the vaccinia. The *non-indurated* chancre is the pseudo-pustule; it is a false vaccinia." The indurated chancre is therefore of the highest importance as indicating the constitutional infection.

"It is the intermediate state between the primitive and the secondary accident. In fact, the indurated is that variety of chancre which soonest loses the distinctive character of the primitive accident, to wit, the power of furnishing inoculable pus. But, if the induration of chancre demonstrates the existence of infection, and if the degree of its manifestation always bears a definite relation to the gravity of the accidents which are about to succeed; if this induration can be considered—permit me to use the expression—as a *syphilometer*, it may also serve as an excellent guide in treatment, for this form of accident is the one which is commonly most amenable to mercurial treatment."

The treatment of chancre by cauterization still finds opponents; on this subject Ricord holds the following opinions:

"Here, then, are the propositions to which I referred:—

"Chancre, as I have sought to prove to you, is at first an absolutely local affection, and may remain definitely local. Chancre may be cured spontaneously, or by local treatment. It is only after the lapse of a certain time that chancres assume an aggravated form, and are able to produce accidents in their immediate neighborhood, or at a distance. If chancres are soon destroyed; if an abortive treatment is applied to them at the first stage of their existence—for instance, from the first to the

fourth or fifth day of their appearance—the patient is almost certainly placed out of danger, as far as they are concerned. But, if we are called to the case at so late a period as no longer to feel certain with respect to the efficacy of the abortive treatment, cauterization may still abridge the duration of the primitive ulcer.

"These principles established—and I am yet to hear of a really serious objection to them, based on experiment or clinical observation—the whole value of cauterization, as an abortive method, is at once understood. So important is the remedy, in view of its beneficial results, that with M. Ratier, I should wish the following precept to be posted wherever there is exposure to syphilitic infection; namely, that no erosion, no suspicious discharge should be allowed to exist an instant, when, by this means, it can at once be destroyed. But, in order to obtain the good effects of cauterization, as an abortive treatment, and to prevent all ulterior accidents, several conditions are requisite:—

"First, the *age* of the chancre must not be reckoned from the moment when the patient first perceived its existence, but from the contagious contact which must have produced it. By taking this precaution, it will be seen, as I have stated, that the chancre, destroyed before the fifth day of its existence, is truly dead, and produces no consecutive accidents. In order to render the cauterization effective, it is not sufficient to touch an ulceration with any caustic whatever; for unless, on the fall of the eschar, a simple wound shall be found in place of the virulent ulcer, the caustic will not have accomplished its purpose. It is after unsuccessful cauterizations, or such as have been performed at too late a period, that accidents have supervened; and these accidents ought not to be attributed to the application of the caustic. In fact, if buboes already exist; if the chancre is indurated; if the syphilitic diathesis is therefore established; and if secondary accidents, in consequence, have supervened; cauterization can only serve to modify the primitive accident, to hasten the reparative period, to repress the granulations, to modify the cicatrix, and finally to abridge the duration of the ulcer.

"As an abortive method, as a means of neutralizing the results of the venereal disease, cauterization can be studied to great advantage in artificial inoculation. And here it is important to state that, from the moment a puncture has been made with a lancet charged with virulent pus, or from the moment when, by any other means, the morbid poison has been made to penetrate the tissues, simple lotions no longer suffice to prevent contagion. Not only so, but we cannot arrest its effects by applying to the contaminated part the various agents which, as I recently told you, are capable of neutralizing the virus, when mixed with it prior to inoculation. These mixtures may easily destroy the *syphilitic seed*, when the latter is separated from the soil in which it is sown; but as soon as the seed is sown, they are powerless to prevent its germination. Timely cauterization or excision is alone adapted to effect this result."

To make cauterization effectual its effects must extend beyond the limits of the sore and involve all the surrounding inflamed or hard-

ened tissue. It is for this reason that this procedure often fails, "almost always, in fact, when nitrate of silver is used." The best caustic is the Vienna paste; the arsenical paste has afforded him satisfactory results. He was experimenting at the time of writing, with the mono-hydrated nitric acid, which operated very favorably.

Ricord rejects the antiquated theory of the bubo *d'emblée* thus: "Neither by experiment nor by incontestable observations, has the existence or even the possibility of buboes *d'emblée* been demonstrated; the reign of the imagination in pathology has passed away; and, consequently, these buboes have disappeared from nosology." He admits two kinds of buboes, the consequence of venereal affections; they are either the consecutive product of the contagion, or the result of the constitutional infection. The first species of syphilitic bubo is of two varieties. The first variety is that which succeeds the non-indurated chancre.

"This bubo of *absorption* does not *invariably* take place. Every non-indurated chancre does not inevitably give rise to it. It may even be said that more non-indurated chancres exist without it than with it. These buboes are esentially the terminations of the *direct* lymphatics, the orifices or extremities of which open into the chancre, either at the same side, or at the opposite side, when the vessels cross the median line. This relation is an essential one, and when it does not exist, buboes are not to be found. I can thus explain their frequency after chancres of the frænum, for example, and understand why I have never seen them supervene after the numerous inoculations which I have made at the upper part of the thigh.

"The bubo which is observed in connection with the non-indurated chancre is not only never developed previous to this chancre, *which ought not to be the case, if it could occur independently of the latter*, but it ordinarily does not show itself until after the lapse of some time—often the first week, in the course of the second, and in certain circumstances at a much later period; and, if the primitive ulcer obstinately remains at the specific period, it does not manifest itself until after the lapse of months, or even years. In a patient of my colleague, M. Puche, a serpiginous chancre existed for three years before it occasioned a virulent bubo. It is only when the ulceration happens, sooner or later, to meet the desired relations, or when it *has not counteracted them in its progress*, that its virulent pus passes into the lymphatic vessels, which convey it directly to the ganglia, without themselves becoming infected.

"With the non-indurated chancre, which is patent, or concealed in the urethra, in the anus, in the vagina, or in the mouth, the adenitis, provided the chancre is unique, is most frequently mono-ganglionary. *It affects only the superficial ganglia*, so that the division of buboes into superficial and profound can in nowise be applicable to the virulent sort. The adenitis of virulent absorption, symptomatic of non-indurated chancre, is inflammatory, and usually very acute; it must inevitably tend to sup-

puration. Whether the virulent pus furnished by the chancre at the specific period be arrested in a lymphatic vessel, or reaches a ganglion, it produces a kind of inoculation which, owing to individual dispositions, gives rise to accidents analogous to those from which it emanates; that is to say, to chancres of the lymphatics or of the ganglia, with a progressive and suppurative tendency. But in this *intra-lymphatic* and absorbent inoculation, if I may so express myself, there supervenes, as in cases of inoculation on the skin and mucous membranes, a *common* inflammation of the neighborhood or of the periphery. And while the infected lymphatics and ganglia suppurate specifically, their phlegmonous atmosphere only furnishes simple pus. The existence of these two layers, at first so distinct and independent, and so easy to understand, was for some time unknown. You remember that one of your recent correspondents, who is so apt to confound every thing, was astonished that they should be distinguished. Well! these two concentric layers have the various properties with which you are already acquainted, and which explain the reason why some experimenters, such as MM. Cullerier, the uncle and nephew, were enabled to assert that the pus of buboes is never inoculable. In fact, if, on the day we open a bubo in which the pus has not remained too long a time, we inoculate with the first pus which escapes—that is to say, with the pus of the phlegmonous layer—the result is negative; while, if we happen to take the pus from the deeper layers—that is to say, the virulent pus furnished by the ganglia—the result is positive."

The second variety of syphilitic bubo, is that which succeeds the indurated chancre. It always follows this form of chancre, and is rarely delayed beyond the second week. They are generally multiple, rarely exceed the size of a small nut; are indolent, hard, and resisting; and almost always terminate by a slow, but complete resolution, often long after the disappearance of the chancre from which they originated. They are very rarely the seat of active inflammation, and if they suppurate they never furnish inoculable pus. These facts establish the following propositions:

1. A bubo which suppurates specifically, that is to say, which furnishes inoculable pus, is never followed by any symptom of constitutional infection. This is a more valuable sign than the absence of the induration of the chancre which has preceded it, and which may deceive us.
2. The multiple indolent adenitis, following an indurated chancre, is an additional proof—and sometimes the only proof we possess when the induration of the chancre has not been verified—that the constitutional infection has certainly taken place.

The author thus advises in regard to opening buboes, and the treatment of those following the indurated chancre.

"As regards the opening of suppurated buboes, when they are not virulent, you will, whether you make one or several punctures, most

usually succeed in obtaining a prompt cure, the result of which depends much more on the nature of the disease than on the operative process. But in regard to buboes with a specific *dépôt*, whether you make one or several openings, the pus which traverses the latter inoculates their borders, and soon transforms them into chancres which, most usually, by their augmentation, unite and cause the destruction of the whole of the skin covering the abscess, whatever measure to prevent this result be adopted. Those who believe in the constant efficacy of multiple punctures have either failed to notice, or failed to state, the true facts in the case. When the *dépôt* is small, it is necessary to make but one puncture or one incision; when the skin is yet thick, and the *dépôt* too large, multiple punctures may be resorted to; but, if the *décollement* is considerable, and the skin thinned or altered, the Vienna paste, wisely employed, cures with more rapidity, as it soon destroys, within well-defined and appropriate bounds, that which diseased Nature takes a long time to *eat* irregularly. When we are guided by adequate knowledge in these operations, the artistic cicatrices become much less visible, and exhibit much less deformity, than those which are otherwise manifested."

"In every case in which we believe we have to deal with a virulent bubo, it is essential to open it too soon rather than too late.

"Do not be impatient, my dear friend; I have scarcely any thing more to say, for I am coming to the buboes symptomatic of indurated chancre, with respect to which many persons give themselves a great deal of useless trouble. These buboes, aside from complications which may demand a particular treatment—antiphlogistic, for example, if inflammation intervenes, or antistrumous, if scrofula accompanies them—require scarcely any local application, the general mercurial antisyphilitic treatment being the essential, it might almost be said the only, condition of their cure. Whether the mercury penetrates the system through the digestive organs or through the skin, it acts efficaciously against this species of bubo, without the necessity of traversing this or that vessel, or following precisely this or that path. But we must not thence conclude that direct friction and resolutive plasters are useless, or fail to appreciate the benefits of compression."

Our author commences what he considers the most important portion of his subject, because the most contested, with this proposition:—*No constitutional pox exists which has not been preceded by chancre.* The converse of this proposition is not asserted; on the contrary, it is admitted that "there are chancres, and perhaps these constitute the most numerous variety, which do not infect the economy, and which can most frequently be recognized." It is the *indurated chancre* alone which infallibly produces the constitutional infection, and the induration may be considered the first secondary manifestation. The period of incubation, like that of vaccinia, is fixed within a definite period, and when the disease is left to itself, "*six months never elapse without the manifestation of symptoms of the syphilitic intoxication.*" More fre-

quently, however, it occurs from the fourth to the sixth week. The order in which these manifestations occur is sufficiently certain to admit of classification. The first effects are a "more or less marked disturbance of hematosis of innervation." By a great number of careful analyses of the blood, he has been able "to verify the diminution of the blood-globules, the chloro-anæmia, which is about to accompany the secondary accidents, properly so called, which is often very marked."

"At this period, too, and frequently before the appearance of any other symptom,—and as a first consequence of the disease,—vision becomes affected, and the muscular strength weakened, neuralgic pains in the head, and rheumatic pains of the members, also supervene. These *precocious secondary pains*, which may also show themselves at the same time that secondary accidents become manifest, and which may return alone, or accompanied by the latter, are not found at any other period unless they be systematically confounded with another order of pains." * * *

"These neuroses consist of intermittent *nocturnal* pains, which are especially manifested under the influence of heat, especially that of the bed. Consequently, in patients who turn night into day, and *vice versâ*, this species of attack is inverted. The pains of this period do not regularly return every time in the same seat, and, during the intermission, pressure does not occasion them. Indeed, some patients frequently experience relief at the moment of the greatest suffering, not only by exposing the painful parts to the action of cold, but also by compressing them. Motion of the members in which the rheumatoidal pains are seated relieves rather than increases these pains, which the patients only complain of in the neighborhood of the articulations, and at times in the dorso-lumbar region. In these cases, there exists no change in the color of the skin, no change of temperature, no tumefaction. In some circumstances, the feelings are simply those of lassitude, which ordinarily cease when other symptoms, such as the cutaneous eruptions, manifest themselves.

"At this period especially of the precocious accidents, one of the most constant manifestations is adenopathies—adenopathies which may be designated, with the utmost precision, secondary buboes.

"The affection of the lymphatic ganglia, at the secondary period, merits particular attention. It is, in some measure, characteristic of this period.

"This variety of adenopathy is seldom wanting, when we know how to seek it, and it often constitutes one of the first proofs of the infection. Sometimes it is present from the third week, but oftener after the sixth, and thus succeeds to the indolent, multiple adenopathy which is *invariably symptomatic* of indurated chancre.

"The seat which it prefers is the posterior cervical or cervico-cephalic region. It is much more rarely found elsewhere. Nevertheless, I have seen other ganglia tumefied in a small number of subjects; but then it is necessary to be careful not to be deceived by other causes of ganglionary engorgement, and especially by primitive accidents at unusual seats,

or by the strumous dispositions which every where favor engorgements of the lymphatic glands, but certainly less in the posterior cervical region than any where else."

In due order of succession, and within the prescribed time, the "exanthematous eruptions, of a rubeolic or erythematous form," make their appearance, and are quickly followed "by papules, by more or less prominent patches, by the dry forms of squamæ, by vesicles, by vesico-pustules, and by more or less superficial pustules of the suppurative forms."

"The tertiary symptoms finally make their appearance, the true osteoscopic pains, which are easily confounded by the inattentive, with those of the secondary period. They are, however, entirely distinct:—'Their seat is upon the superficial bones, and in the compact regions; they are fixed, and have not the *rheumatoidal* character; they are nocturnal, and are aggravated by heat, particularly that occasioned by the bed; they are all increased by pressure, either during the paroxysm, or during the intermission, or during the diurnal remission. Finally, where the pain is seated, a swelling of the periosteum, or of the bone, may, and commonly does, supervene.'"

The following are his conclusions in regard to these three periods.

"1. The primitive accident, the chancre. This is the immediate result of the contagion, and the invariable source of the reproductive virus. It remains as a local accident, upon the skin or mucous membranes, within certain limits; and is able to extend only to the neighboring ganglia, and to give origin to buboes. Finally, it affects the economy.

"2. The secondary accidents, or the constitutional poisoning which results from this infection, and is first exhibited during the first six months. The seat of this poisoning is the skin, the mucous membranes, and their connections. These accidents are, in default of rigorous demonstration, supposed contagious. They have not yet been reproduced by artificial inoculation; and are transmissible hereditarily, by the father or by the mother singly, or by both at the same time.

"3. The tertiary accidents, rarely showing themselves prior to the sixth month. Their seat is the subcutaneous cellular tissue or the submucous, the fibrous, the osseous, and the muscular tissues, and certain organs, such as the testicles, the heart, the brain, the lungs, the liver, &c."

We shall pass over the remaining portions of this work, and conclude with a reference to the new doctrine of syphilization, which is exciting a great deal of attention in France. We cannot give a better idea of the doctrine than in the language of its originator, M. Auzias-

Turenne, whose reply to some of the strictures of Ricord is incorporated in one of his closing letters. He says:

"Syphilization is neither a virus nor a disease—such, for example, as vaccinia and variola. It is a state analogous to that in which we consider one who is affected with the smallpox. In fact, after having had the variola, we have acquired immunity from the disease. In the same way, after having experienced successively a sufficient number of chancres, we are *syphilized;* that is to say, insured against all the forms of syphilis. *Syphilism* is the aptitude to be *syphilized.* Undoubtedly, we possess this in different degrees. Therefore, it is a natural quality; while *syphilization* is a property acquired by virtue of this quality. * * * * * * * * What we maintain is that, when we are *syphilized*, we have experienced in a short time the syphilitic disease, and we are not liable to it any further than to the smallpox, with which we have been affected. * * * * * *

"In order to make *syphilization* understood, let us suppose that a traveller passes over the two sides of a mountain; first, from the base to the summit, afterwards, from the summit to the base. He represents the person whom we *syphilize.* The chancres correspond to the different portions of his route; thus, the indurated chancre, the index of constitutional syphilis, corresponds to the crest of the mountain, and syphilization to the end of the journey. By his first chancres, this traveller approaches constitutional syphilis. He then goes on until, by means of other chancres, he is brought to *syphilization.* In order, then, to extricate himself from the constitutional syphilis, he must not pause in the middle of his route."

To attain this state of *syphilization*, therefore, it is necessary to pass through that of constitutional syphilis. To avoid the dangers of this latter state, the system must be carried rapidly through the process, by frequently repeated inoculations: thus, the indurated chancre, the infallible evidence of constitutional infection, may be entirely avoided, although the patient actually passes through the state of constitutional syphilis. The number of chancres required to produce *syphilization* is indefinite, varying according to their seat, size, duration, and especially their mode of succession, according to the prior syphilitic contamination of the patient, according to idiosyncracy, the intervention of mercury or alcoholic drinks, organic excitants, &c., &c.

Although Ricord awards to his school the merit of the discovery, or rather prophecy, of syphilitic vaccination, yet he resolutely refuses to admit the theory of M. Auzias, until it is established by incontestable facts.

"In fact, if you consult M. Auzias relative to a chancre, he tells you to go back to the source, and again go back, until you can no longer —contract it. If you have neither the courage nor the strength, he

gives you chancres until you have enough of both; how many, he does not know, because there is an infinitude of conditions of which he is ignorant, and in virtue of which the power of *syphilism*, or the aptitude of contracting chancres, may be augmented or diminished. Perhaps ten, thirty, forty, fifty, sixty, or more are required. But let the patient take courage, and the goal is reached without much trouble; for the chancres are to be placed on regions of the body where their presence occasions but little inconvenience; such as the belly, for example, of public women, or the arms of those who do not use them.

"But in thus multiplying, for one or two months and more, the sources of infection, do not fear that you will be infected, infiltrated, impregnated with the virus; that is not the business of the syphilizers; they do not wish you to believe that they put the pox in the blood. It is sufficient for you to know that you are *syphilized;* that you have undergone a general modification which has forever destroyed your *syphilism*, without the mixture of the virus with your humors; M. Auzias is sure of this result, for he has followed the virus in its peregrinations; and you are about to judge of the fact.

"Suppose that all, without exception, who are endowed, like every animal of the creation, with syphilism—that is to say, with the immense prerogative of being able to contract the pox, and of thus being placed beyond its power—should represent a mountain with two sides; and that a chancre seeks to climb the first side of the mountain of—Venus. If it is alone, it remains at the foot, where it may die without descendants. If, on the contrary, other travellers of the same *species* come to its aid on its route, to shoulder it along, and to cause it to take the short cut, it may reach the summit; but if, when it has gained this point, it is not assisted, like the monkeys mentioned in the fine fable of M. Viennet, in descending the opposite slope, it is unable to advance, indurates, and sets on fire the syphilitic mountain, which then vomits its lava under the different forms of constitutional accidents with which you are familiar. But should its course be unhindered, or should it be resumed after a short cessation, and even after an *eruption*, the traveller, fatigued and worn out by the last half of its journey, carries away with itself the evil it has wrought, and finally dies in the valley of Jehoshaphat, to await the last judgment of—experiment."

A case of inoculation, according to the method of Auzias, is given in a note, in which the number of inoculations amounted to eleven, and which, as a test of his theory, proved a total failure. The eleventh inoculation indurated: each new inoculation was successful; the chancres did not diminish in size, in proportion to the number of inoculations, &c.

M. Ricord thus sums up the treatment of syphilis:

"1. Abortive treatment applied to chancre as soon as possible.

"2. Mercurial treatment reserved for the indurated chancre and for secondary accidents.

"3. Iodide of potassium applied to tertiary accidents.

"4. Mixed treatment, by mercury and the iodide of potassium, in tardy secondary accidents, or when tertiary accidents exist at the same time."

We have purposely avoided, in our extracts from this work, the controversial portions, which we may here say exhibit the tact of the logician, with the talent of the inductive philosopher. In the fierce conflict that is now being waged in France and Germany against the doctrine of inoculation, Ricord, singlehanded, maintains an even combat with the highest surgical talent of those two countries. Whatever the result of the commission appointed to deliberate on the subject may be, no one who enters into the spirit of that controversy, as foreshadowed in these letters, can fail to be convinced that their author has erected a strong fortress, which he is able to defend.

We learn with pleasure that these letters are but the outlines of a great work, now in course of preparation, which is designed to illustrate completely the author's doctrines. It will doubtless be received by the profession as the most authoritative contribution yet made to this speciality.

CRITICAL BIBLIOGRAPHICAL NOTICES.

ART. X.—*Transactions of the Medical Association of Southern Central New-York*, at the Annual Meeting held at Owego, June, 1852. Auburn: Printed for the Association by H. OLIPHANT. 1852.

WE have received, though tardily, the transactions of this Association, in which we have felt a deep interest from its organization. A personal acquaintance with several of its founders led us early to place a high estimate upon its results, but its practical working has more than realized our anticipations. The unabated zeal with which its members individually, and its various committees, discharge the duties imposed upon them, is worthy of all commendation. Its transactions have grown from a thin pamphlet of sixteen pages, to a respectable volume of nearly a hundred pages, at its sixth annual meeting. The reports on the various branches of medicine, which are thus educed and placed on record, are of permanent value. Especially is this true of the reports on the vital statistics and the annual epidemics of the different counties composing the Association. This portion of these transactions deserves more than a passing remark.

We have reports upon the vital statistics of two counties, Cortland and Broome. The former is drawn up by Dr. Green, a scientific phy-

sician of that county, and is of a character worthy of imitation. His observations on the diseases of the different seasons of the year, were made in connection with the Meteorological Register of the Smithsonian Institute, located at Homer. It is to this feature of his report that we would invite particular attention. We have long been confident that the most important results would follow, could we obtain *annual* reports on the vital statistics of each county, in our own as also of several other States, embracing thus a large territory, and made in connection with an accurate Meteorological Register. From such reports, continued for a term of years, the most important deductions could be made, and an accurate and rational system of climatology established. This has been rendered much more feasible, by the recent establishment of apparatus for such observations in certain localities over the entire country by the Smithsonian Institute. It is to be regretted that the authorities in this Institute did not appoint medical men as the observers at these different stations, so legitimately do such observations come within the calling of the physician. In this case it would have been an easy and pleasant task for each observer to include in his report the prevailing diseases of his district, the period of their rise, greatest prevalence, decline, mortality, &c. A mass of facts would thus accumulate at the seat of such authority, which would demonstrate the relation of individual diseases to Meteorology, and from their generalization might be deduced the laws of epidemics with as much certainty as from the other observations can be learned the laws of storms.

The great work of Dr. Forry on the Climate of the United States, was based upon the Army, Medical, and Meteorological reports. These observations, made at distant and isolated stations, and upon a class of adult males unacclimated, and of irregular habits, were necessarily imperfect, and only the most general principles could be established. Such principles were indeed established, and are of great scientific value; but a work on the climate and diseases of the United States, more specific in its character, and far more comprehensive in its details, is greatly demanded. The materials for such a work should be obtained, as already indicated, from observations made by practical and scientific physicians in every county of our own and other States, upon the diseases prevailing among the *inhabitants* of these several counties, and in connection with accurate Meteorological Registers. Some reports of this kind have already, to our personal knowledge, accumulated in the Smithsonian Institute, as the result of its establishment of stations for Meteorological observations, and we hope, at no distant day, to give a more definite expression to our reflections upon this subject, based upon these reports. In the mean time

we would press this subject upon the attention of the American Medical Association, which extends an enlightened jurisdiction over the entire country, and urge the necessity of its establishing some system by which annual medical and meteorological reports may be secured, if not from every county in the Union, at least from districts not too remotely separated to interrupt a series of observations, by the interposition of different climatic or other contingent circumstances. At a former meeting of this Association, the authorities of the Smithsonian Institute generously tendered its reports and volunteered its most valuable assistance in the pursuit of this great object, but we are pained to say its offers were rejected. The transactions of the Association for 1852, contains some valuable reports on epidemics, particularly that of Dr. Barton, of New-Orleans, which derives its especial value from the extent of territory embraced in it, and the importance given to meteorological changes. But the value of such reports would be immeasurably enhanced if some system were adopted by this Association as we have indicated. We hope that at its next annual meeting this subject will receive its serious consideration.

A report on surgery by Dr. Hyde, an eminent surgeon of Cortland county, is of a highly interesting and practical character. The following teaches a practical lesson in the treatment of incised wounds of the knee-joint:—

Incised wound opening the knee-joint.—The following case occurred under the observation of Dr. L. S. Keene, of M'Grawville, a subjoined sketch of which he has furnished the committee. A lad of eleven years fell from a fence, striking his knee upon the edge of a sharp scythe, cutting open and disarticulating the knee, leaving only the ham-strings, large nerves, and blood-vessels undivided. A small piece of the head of the fibula was shaved off, otherwise the wound was directly through the joint, exposing the entire articulation. *Treatment.*—The limb was placed in the straight position, one of the articular arteries tied, the edges of the wound brought together, maintained by sutures and adhesive plasters, on which were applied a rattan and splints. Anti-inflammatory measures were pursued. Two-thirds of the wound united by first intention; the remainder healed kindly, after which the parts were subjected to slight motion daily. In two months from the receipt of the injury, he could walk by drawing the limb after him. At the end of five months, he regained the power of flexion and extension sufficiently to walk quite well. At this time there was considerable effusion in the joint, but it has been gradually absorbed.

Dr. Clark, of Elmira, reports *cases of disease produced by eating bread made of what is called "sick wheat:"*

"I commenced an investigation of the case of the father, who was first taken, as most capable of describing his feelings (for the description

of one was that of all). He went out after dinner to cut clover seed; was in good health. After mowing a little while he became exceedingly weak, so much so, that he could hardly get over the fence, or to the house; being obliged to stop often, occasionally he would break out into a kind of sweat that looked like oil rubbed on the skin. This sweat usually came into the palm of the hands; then a shaking of the hands and trotting of the feet for a few minutes; then all would be quiet for a short time, when the sweat and shaking would return; and so several paroxysms would occur in a day. The appetite was good, and there was nothing peculiar in the pulse, but the weakness continued. The whole family of eight or ten would often be shaking at the same time. I ascertained that a nephew who came to assist them in their work, was taken in the same manner, and went home, but came back in two days as well as ever, and went to work. After dinner he was taken as before, and went home, where he recovered immediately. This led to an inquiry as to their food. Finding nothing but the ordinary articles of diet, an inquiry arose as to poison in water, or poison in some way introduced into their food, and what kind of poison produced such results. None could be fixed upon. At length we sent for a sample of wheat that the bread was made of, and from its singular appearance we came to the conclusion that it was what is called "sick wheat." It had the appearance of shrunken wheat, of a greenish and blackish color. It seems there was a difference in this wheat when growing; about one half the field put on a singular appearance, so that it could be seen as far as you could see the wheat. A change was advised in their bread alone, and immediately adopted, and restoration to health immediately followed."

In conclusion, we must again express the hope that other districts in our State will follow the example of the Medical Association of Southern Central New-York, and organize societies which, like that, shall draw out annual reports from each county on every branch of medicine. In no other way can the country be so thoroughly canvassed, and its important medical facts obtained and placed on record.

ART. XI.—*A System of Practical Surgery.* By WILLIAM FERGUSSON, F. R. S., Professor of Surgery in King's College, London; Surgeon to King's College Hospital; and Surgeon to H. R. H. PRINCE ALBERT. Fourth American, from the third and enlarged London edition. With three hundred and ninety-three illustrations. Philadelphia: Blanchard & Lea. 1853.

To the unusually large number of surgical works which have appeared within a twelvemonth, we now have the pleasure of adding a new edition of the excellent treatise of Mr. Fergusson. This was always a favorite volume with us on practical surgery. No work was ever written

which more nearly comprehended the necessities of the student and practitioner, and was more carefully arranged to that single purpose than this.

The plan of giving the surgical anatomy of the different regions of the body, as introductory to the discussion of the various operations pertaining to those several regions, is one of the best features of the work. Following these dissections, is a brief review of the different surgical diseases and accidents of the portion of the body under consideration, and then follows the specific details in regard to each. Thus the student is led to pursue his studies in a systematic manner, while the practitioner has a source for concise and accurate reference. Aiming to give only a system of Practical Surgery, the author has avoided the introduction of historical details and discussions upon hypothetical subjects, which properly belong to complete surgical treatises.

The present is a most decided improvement upon the former editions of this work, and appears for the first time in this country without an American editor. Matter of practical value has been added by the author, while the typographical execution is very creditable to the publishers.

Art. XII.— *What to observe at the Bedside, and after Death, in Medical Cases.* Published under the authority of the London Medical Society of Observation. Philadelphia: Blanchard & Lea. 1853.

This work grew out of the necessity which was felt by the members of the Medical Society of Observation, that, to facilitate the analysis and comparison of clinical observation, and to render these observations more precise, the records should in every instance be arranged on a uniform plan.

We learn from the preface, that "the Society in consequence adopted, with some modifications, a form of arrangement of symptoms and after-death appearances, which had been framed by Dr. Walshe. The publication of this form seeming desirable, it was referred to a committee, who expanded and altered various parts of it, and finally threw it into its present shape. The supervision of the whole was intrusted to Dr. Ballard, who has bestowed upon his task great labor and attention.

"The Society believes that this scheme or method of arranging the clinical and anatomical phenomena of disease, will prove useful both to those who desire to learn systematically with what amount of detail, and in what order, those phenomena should be looked for, and also to those who wish to record with accuracy the results of their experience. It will probably be admitted, too, that errors in diagnosis are more frequently traceable to forgetfulness in searching for all possible evidences of disease, than to misinterpretation of those actually discovered; the physician proceeding to the investigation of an obscure case may, then, in a book of the present kind, occasionally find a useful remembrancer."

The work is divided into two parts, the first being devoted to the "*Clinical Examination of a Patient*," the second to the "*Examination of a Body after Death.*" To give some idea of the form adopted for making these observations, we have extracted the following in regard to the *Physical Examination of the Heart and Pericardium.*

Physical Examination of Heart, etc.

Inspection; shape of cardiac region.

Intercostal spaces; pulsation.

174. *Inspection; shape of cardiac region;* bulging or depression of second, third, fourth and fifth left costal cartilages and ribs; shape of adjoining part of sternum; condition of intercostal spaces as to widening, bulging, retraction. *Visible pulsation;* its site and extent; visible point of apex beat; undulatory pulsation; double pulsation, locality and time of; force of pulsation as estimated by the eye; effect of position and inspiration.

In the same manner the heart is examined by measurement, palpation, percussion, auscultation, &c., and thus the attention of the observer is successively directed to every possible variation of the organ from its normal state. By the same method, every organ and tissue in the body is interrogated with precision and accuracy. In the post-mortem examination, the same method is pursued; thus again of the *heart:*

Examination in situ; position.

Shape.

Measurements.

Consistence.

Examination in situ; exact position; point of thoracic parietes to which apex and right and left borders correspond; relation of heart to liver; direction of axis of heart. Shape; extent of left ventricle seen; degree of distention of right auricle. Measurements; from extreme base to apex; from auriculo-ventricular groove to apex; transverse measurement at auriculo-ventricular groove. General estimate of rigidity or flabbiness of tissues.

Next we have its *examination after removal;* and then a most minute and searching examination of every valve, opening, cavity, vein or artery, in any way connected with the heart; and finally, a microscopical examination of the contained blood, and of the several structures of the organ itself.

With this explanation of the design and arrangement of the work, we commend it to the attention of the profession. Of the importance of a precise, accurate and uniform system of recording clinical and post-mortem observations, no one who sets any value upon statistical medicine can have a doubt. In this work, such a system is now placed in our hands, prepared with great care and immense labor, and we hope it will be adopted in hospital and private practice in the city and country.

PART THIRD.

FOREIGN MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

Clinical observations on the pathology and treatment of Acute Rheumatism and Gout. By J. H. Bennett, M. D., Professor of Clinical Medicine in the University of Edinburgh.—The present theory with regard to these affections is that they are both connected with an increase of lithic acid in the blood. In rheumatism, this is dependent on excess of the secondary, and in gout on excess of the primary, digestion. In rheumatism, however, there is considerable excretion of lactic acid by the skin (Todd), whilst in gout there is an excess of soda, which, uniting with the lithic acid, produces a compound of lithate soda, that may be detected as such in the blood (Garrod), while sometimes it exudes into the cellular tissue of the skin, constituting tophaceous deposits. In both diseases there is an undue balance between the excess of lithic acid and the power of excretion,—in rheumatism by the skin, and in gout by the kidney. This pathology serves to explain the similitudes and differences existing between the two affections. In both there is a certain constitutional state, dependent on deranged digestion, during which exciting causes occasion local effects. These exciting causes in rheumatism are bad diet, hard work, exposure to cold and wet, and its subjects generally are the poor and laboring population. In gout the causes are good diet, indolence, repletion, or indigestion, and its subjects are for the most part the rich and sedentary. The local manifestations in both are acute wandering pains, with pain and swelling—in rheumatism of the large, and in gout of the small joints, constituting the acute attack in the one, and the so-called regular attack in the other. These are combined with a tendency to various complications of the internal viscera, which are more or less dangerous to life.

The general indications of treatment are, in both diseases, 1st, so to regulate the nutritive functions as to insure a due balance between the amount of matters entering the blood as the result of digestion, primary

or secondary, and the amount of matters discharged from the economy by the excretory organs; 2d, to conduct the acute attack to a favorable termination, carefully watching the internal viscera, and being prepared to act with vigor should these become affected. Hence the treatment of these diseases resolves itself into what may be called curative and preventive,—the first having reference to the acute attack, the second to the means most likely to hinder its return; the one must be carried out by remedies which act upon the blood and excretory organs, the other by the management of diet and exercise.

Treatment of Acute Rheumatism by Nitrate of Potash.—Although the general pathology above mentioned, which considers rheumatism as a blood disease, may be considered on the whole as correct, we are not yet enabled to explain by it the symptoms of an acute attack of the disease, where, in addition to the constitutional disorder, we have local pain, occasional heat, redness and swelling, with febrile symptoms. Most practical men have attributed these phenomena to a superinduced inflammation, although it has not been shown that exudation occurs, or that it is followed by the usual results of that condition. Besides, its erratic character is opposed to what we know of the process of true inflammation, and calling it an unhealthy inflammation in no way clears up the mystery. The real pathology of acute rheumatism, therefore, has yet to be determined, and as a preliminary step, a careful histological examination of the affected tissues is absolutely necessary. So far as I am aware, this has never yet been attempted, if we except some observations by Hasse on the structure of the bones in rheumatism (see the Monthly Journal for June, 1847).

Our treatment of this disease, therefore, is purely empirical, sometimes directed against the pain, at others against the supposed inflammation; now attempting to combat the pathological condition of the blood, then striving to remedy its effects by acting on the excretions, and not unfrequently giving specifics, in the hope that any change in the constitution, however produced, may be beneficial. In no disorder, probably, has such a crowd of opposite remedies and plans of treatment been extolled, and yet none of them can be depended on, so that it has been imagined that six weeks' rest is the most useful prescription (Warren). The latest author on rheumatism endeavors to explain this by observing, that this need not be wondered at by "those who consider the true nature of the disorder, and the variety of circumstances under which the physician may be called upon to minister to his patient's relief. The bleeding, which in the young, plethoric, and robust, may be necessary to allay excessive vascular action and cause free secretion, may in the weakly, induce irritability of the heart, and a consequent attack of cardiac inflammation. The opium which in one person may prove of the greatest service in promoting free perspiration, and in allaying the general irritability of the system, may in another check the biliary and other secretions, and thus prevent the elimination of the rheumatic poison. The continued use of calomel, and the constant purging, which may be beneficial to one patient by removing large quantities of unhealthy secretions, may unnecessarily exhaust the strength of another, and tend very

greatly to impede recovery. And so in regard to every remedy which has been proposed. What is useful at one time proves useless, or positively injurious, at another; and the conclusion is forced upon us, that what is wanted 'is far less the discovery of untried methods of treating disease than of discriminative canons for the proper use of those we possess;'—far less the discovery of any new medicines, than the adaptation of our present remedies to the exigencies of each case" (Fuller on Rheumatism, p. 73). These judicious observations may serve to explain the cause of our failure; but until we obtain more exact information regarding the *special* pathology of rheumatism, it is in vain to hope for a rational treatment.

For my own part, I generally treat rheumatism on what is called "general principles;" these are, to alleviate severe pain by anodynes, diminish excessive vascular action by moderate bleeding and saline antiphlogistics, and encourage every attempt at critical discharges by diaphoretics, diuretics, purgatives, etc. Occasionally I have tried the effects of special remedies in this disease, and watched a series of cases, all of which were treated in the same manner. Thus I have tried aconite, and believe that alone it is of little service; colchicum also I have given frequently, and am of opinion that in pure rheumatism it is of no advantage, although in gout it is invaluable. This session (1851-2) you have witnessed another trial of this kind with the nitrate of potash, a remedy formerly recommended by Dr. Brocklesby, and which has been given with good effect by M. Gendrin, in the wards of La Pitié, in Paris, as recorded by Dr. Henry Bennet (Lancet, 1844, vol. i. p. 374). It has more lately been pressed on our attention by Dr. Basham (Medico-Chir. Trans., vol. xxxii.), who tells us that from one to three ounces of the salt, if freely diluted in water, may be taken by the patient in the course of twenty-four hours, without any injurious results, but with the effect of relieving in a marked manner the swelling, heat, and pain in the joints. In the following cases the remedy was tried in much smaller doses, and it appears to me with more than average success:

Case 1.—Mary M'Kenzie, æt. 46, servant, admitted January 4th, 1852. States that she was suddenly seized with a severe pain in the left side two days ago, after undergoing unusual fatigue, and this was followed the same night by rigors and other febrile symptoms, which have since continued without intermission. The pulse is 84, natural; heart's sounds normal; complains of headache and loss of sleep, and especially of a severe cutting pain in the left axillary region, increased by pressure and motion. Careful examination of the pulmonary organs elicited nothing abnormal. Tongue is coated; there is some thirst, but the appetite is good; bowels are costive; the skin is hot, and she sweats at night. *Ordered Potas. Nitratis*, ℥ ss.; *Aq.*, ℥ vj. *M. A tablespoonful every four hours. Hirudines*, xv. January 6th.—No improvement to-day; has been taking the medicine regularly. *Ordered v.s. ad* ℥ viij. January 7th.—Pain not so severe to-day, but is still present. January 11th.—Continues much better; pain is only felt on coughing. Convalescence proceeded somewhat slowly after this date, and she was dismissed cured, 2d February, 1852.

Commentary.—This was a case of severe rheumatism affecting the pectoral and intercostal muscles on the left side, which was subdued on the ninth day, after six days of treatment. The nitrate of potash produced apparently little relief, although fifteen leeches had been applied to the painful part, until a small bleeding of eight ounces was practised, when marked amendment immediately occurred.

Case 2.—Mrs. Anderson, æt. 48, sick nurse, admitted December 3d, 1851. States that previous to the present attack she has always enjoyed pretty good health, with the exception of a liability to a slight cough; has been lately subjected to much fatigue in her occupation as a sick nurse, and has been exposed to cold from sitting up for several nights in succession in a large room, heated by a fire, and ventilated by keeping the windows open. Having no adequate protection from the cold draught thus caused, she became affected with sore throat, and had pain in the chest. This occurred in the latter part of October last, and from that time up to November 20th, she has suffered from slight shivering and uneasiness; transient pain in different parts of the body; nausea and vomiting. About a fortnight before admission, she had a distinct rigor, followed by heat of skin and other febrile symptoms with very severe pain in the joints especially, much increased by any attempt at motion. The vomiting also continued; and last week she suffered from pain and palpitation in the cardiac region, and at the same time an aggravation of her former symptoms, so that at present she cannot move without suffering excruciating agony, having severe pain apparently in every joint of the body. Heart's sounds, impulse, rhythm, and position normal; pulse about 100, weak. Irregular fits of copious clammy perspiration, of acid smell; no œdema of the joints. Urine scanty, dark-colored, deposits crystals of the triple phosphates, with some mucus. Tongue loaded; anorexia; thirst; occasional vomiting; no tenderness on pressing the epigastrium; bowels confined; pulmonary functions normal. ℞. *Muriatis Morph. semigranum; Pulveris Aromaticæ grana quinque. M. Ft. Pulv. Mittantur sex. One to be taken every half hour.* December 4th.—She took three of the powders last night, after which she fell asleep; and this morning feels somewhat better; she has also had the bowels emptied by an enema, and is now using a diuretic mixture. December 5th.—Pains in the limbs much the same; gets no sleep; perspiration still copious; urine not increased in quantity; vomiting continues; has been taking diuretics and Dover's powder. December 6th.—Had an exacerbation last night, the pain in the joints and limbs being excruciating. ℞. *Potassæ Nitratis semiunciam; Aquæ uncias sex. Misce et signetur—a tablespoonful every four hours.* December 7th.—Has taken three doses of the medicine; she perspired a good deal during the night; urine not increased in quantity: pain is less severe. December 8th.—Still sweats a good deal; pains much the same as yesterday. *Adde Misturæ Nitratis Potas.*, ℥j. December 9th.—Pains better; copious perspiration; urine increased in quantity; increase of the nausea and vomiting and of the thirst. December 10th.—Pains nearly gone; sickness continues; refuses to use

her medicine; pulse 80, weak; much general debility. After this date the pains ceased entirely, and she was shortly afterwards discharged cured.

Commentary.—This was a severe case of both general muscular and articular rheumatism, of a fortnight's standing, when she entered the house. There was still, however, great pain on the slightest movement, which, during two days, in no way yielded to morphia, diaphoretics, and diuretics. On the exhibition of the nitrate of potash, profuse diaphoresis came on, which was apparently kept up by the medicine, with marked amendment to the rheumatic pains, followed by rapid recovery. The improvement could not be attributed to the occurrence of any critical day in this case; and the night previous to the exhibition of the remedy, there had been a marked exacerbation. Every one who saw this case felt persuaded that the good effects were attributable to the nitrate of potash.

Case 3.—Janet Wright. This woman had been admitted early in December, laboring under the usual symptoms of acute rheumatism, and has been undergoing treatment by Dover's powder, diuretics, leeching, etc., up to the 6th, without any benefit whatever, when on that day she was *ordered* ℞. *Potas. Nitratis*, ʒ iij.; *Aq.*, ℥ vj. *Misce. A tablespoonful every three hours.* December 7th.—Has taken four doses of the medicine, but without effect so far; took a dose of Dover's powder last night, and slept well; pain in the shoulders very severe, and also in the knees. December 8th.—Pains still continue. *Adde Misturæ Potas. Nitratis*, ʒ j. December 10th.—Has been using the medicine regularly; she says it makes her very weak, sleepy, and stupid. She sweats a good deal at night, and the urine is increased in quantity; is very thirsty, and complains of bad taste in her mouth; pains gone from knee. December 13th.—Still continues the medicine. No return of pain in the knee; greatly relieved in shoulders, etc.; the increased secretion from the skin and kidneys continues. The improvement continued up to the 16th, when she was dismissed for disorderly conduct.

Commentary.—In this case the nitrate of potash, after being taken for three days, caused much diaphoresis and diuresis, followed by diminution in the rheumatic pains and rapid improvement, when she was dismissed.

Case 4.—Jane Irvine, æt. 17, servant, admitted 19th December, 1851. States that seven days ago, whilst engaged at her usual occupation, she was suddenly seized with severe febrile symptoms, and constant pain in the left ankle, which was increased by pressure and motion; it was red and tumefied. On the following day the right ankle became similarly affected, and then in succession the knees, shoulders, wrists, and fingers; the pain still continuing, but modified in severity in the parts first attacked. She has been undergoing treatment by diaphoretics, without, however, having experienced any relief from them. On admission the pulse is 100, full and soft. A soft bellows murmur, synchronous with the radial pulse, accompanies the first sound, heard loudest at the base, and is propagated along the course of the large arteries. Cannot sleep from the pain, which is general, and is causing intense suffer-

ing. Tongue moist, preternaturally red at the tip and margin; no appetite; thirst; nausea, and vomiting; the bowels are costive; some tenderness on pressure in the epigastrium. Urine high coloured, deposits a slight sediment of lithates. Skin moist, from copious perspiration; knees and ankles are swollen and painful on the least pressure. The right wrist, especially near the metacarpal bone of the thumb, is at present the seat of greatest suffering, and is red, painful, and swollen. *Ordered to be bled to* ℥ xvj., *and to have a purgative enema.* December 20th.—Is much worse to-day; the pains in the wrist and hands are especially aggravated. Copious perspiration still continues. *Ordered* ℞. *Potas. Nitratis,* ℥ ss.; *Aq.,* ℥ vj. *A tablespoonful every four hours.* December 21st.—Slept during the night. The sweating is still profuse. Urine in moderate quantity, sp. gr. 1016, deposits lithates. Pulse 90, weak; cardiac murmur very indistinct. The pain is considerably relieved, except in the left lower extremity. December 23d.—Still continues taking the Potass. Nit.; the improvement more marked, and she can allow the limbs to be moved about to-day. December 23d. —She presents quite a cheerful appearance to-day, and is entirely relieved from pain; all the joints can be moved quite freely, without exciting uneasiness. Pulse 68; skin cool; tongue clean; appetite returning; bowels regular; urine natural—some sediment. Cardiac murmur is more distinct to-day. Convalescence proceeded satisfactorily from this date till January 5th, when she was attacked by typhus fever, from which, however, she ultimately recovered, and was dismissed well.

Commentary.—This was also a very severe case of general rheumatism, which was in no degree benefited by diaphoretics, and a large bleeding on the seventh day. On the eighth day she was if any thing worse, and then nitrate of potash was given, producing marked relief on the following day. On the eleventh day of the disease, and third from the exhibition of the salt, the disease was subdued, and she became convalescent. Here, again, the period of improvement cannot be confounded with critical days, and strictly corresponds to the administration of the remedy. The bleeding *may* have assisted its effects, but certainly was not followed, as is usually the case, by any evident amelioration. This girl had an endocardial murmur on admission, which continued during the progress of the case, and I ascertained from the medical practitioner who sent her into the house that she had labored under this before the attack of rheumatism came on. Was this, therefore, an anæmic murmur independent of the general disease, or produced by it? We may ask another question, viz., Are all the endocardial murmurs occurring in conjunction with rheumatism caused by endocarditis, and attributable to the rheumatic diathesis? These questions demand more careful attention to these murmurs in young women than has, I think, hitherto been paid to them. For my own part, I am satisfied that these anæmic murmurs in young girls are very common; and as servant maids, as a class, are commonly affected with rheumatism, I cannot help suspecting that they are more frequently considered to labor under endocarditis than is really the case. Further observation, however, is required to determine this point.

Case 5.—Margaret Bell, æt. 29, servant, admitted 29th December, 1851. States that last Wednesday she was engaged in washing before an open window; some time after which she was suddenly attacked with rigors, hot skin, and perspiration; and on the same night severe pain commenced in the left hip, and extended subsequently to the knee and ankle of the same limb. Shortly after the right limb became similarly affected, though the pain did leave the left. The suffering became so intense as to prohibit the slightest motion; and it became exacerbated at night, and at the same time copious perspiration broke out. At present the lower extremities are affected the most severely; and the joints are slightly red, and tumefied. The heart's sounds are normal. ℞ *Potas. Nitratis*, ʒ vj.; *Aq.*, ℥ vj. *Solve. A tablespoonful every four hours.* December 30th.—Has taken six doses of the medicine, but without any improvement as yet in the pains; pulse 128. January 1st, 1852.—Pulse 120; skin cooler; slept well during the night; urine deposits a slight sediment; bowels have been opened. There is now no pain any where, except on motion and pressure of the ankle. In the evening, however, after rashly exposing herself to cold, the pain returned to the right elbow. January 2d.—Pain very severe in the right arm and hand; skin hot; urine loaded with sediment; no sleep. *Ordered to take Potas. Nit.* ʒ ss., *every four hours, dissolved in half a tumblerful of water.* January 3d.—Pains have again disappeared from all the joints, with the exception of the wrist, which is painful on motion. On the 5th of January there was again an exacerbation, and she was bled to ℥ xvj., after which the pains ceased entirely for the time. She did not leave the hospital, however, till the 25th, as she was liable to occasional slight returns of the disease; which appeared to yield readily enough to further doses of the Potas. Nit.

Commentary.—In this case the nitrate of potash did not produce so marked and permanent an effect as in the last one, although the dose was considerably increased; and yet it apparently was of much benefit. There was a great tendency to exacerbations, and the rheumatism was of an erratic character. After continuing the exhibition of the salt for six days, I ordered a bleeding on the occurrence of another exacerbation, which produced a marked amendment. She continued the nitrate of potash; but the disease lingered in a trifling degree, and continued to fly from joint to joint, until a few days before her dismissal.

Case 6.—James Rough, æt. 26, blacksmith, admitted December 29th. States that he has suffered on two former occasions from attacks of rheumatism. During his last attack, three years ago, he was treated in this hospital, and it lasted five weeks. The present attack came on nine days ago with great severity, having been preceded by febrile symptoms, which appeared to have followed exposure to cold; the pain was very severe in all the joints, but especially so in the wrists and knees. He has noticed within the last year or two that considerable palpitation of the heart ensues after much exertion, or indulgence in ardent spirits; but in his ordinary conditions he is not troubled with it. At present the pain in the joints is not severe, unless on attempting motion; pressure on the right shoulder and ankle causes considerable tenderness. The

cardiac dulness measures a few lines more than two inches across, but strikes the thoracic parietes in the normal position. A very distinct bellows murmur accompanies the first sound, is heard loudest at the apex, and is not prolonged along the course of the great vessels; the second sound is more sharp and abrupt than natural. The radial pulse is not synchronous with the impulse of the heart, but follows it after a very appreciable interval. A few sibilant rales can be heard here and there over the chest. Tongue is slightly furred; appetite is impaired; thirst not excessive. There is slight diarrhœa. The urine is normal. Skin is moist, but no excessive perspiration. ℞. *Potas. Nitratis*, ℥ ss.; *Aq.*, ℥ vj. *M. A tablespoonful to be taken, diluted with as much water, three times a day.* December 31st.—Pains much easier to-day. The bellows murmur is much softer also. Urine deposits some lithates. Is sweating a little to-day. Pulse 86, soft, and regular. January 2d, 1852.—Thirteenth day. Has no pain to-day. Continues to perspire a good deal; and the urine deposits a copious precipitate of the lithate of ammonia. Pulse 68, soft, and regular. Complains much of weakness. After this date, the amendment continued uninterruptedly, although only one bottle of the Nit. of Potash mixture had been used, and he was dismissed cured on the 12th January.

Commentary.—The exhibition of the nitrate of potash was followed by apparently marked effects in the case, producing diaphoresis and evident benefit on the twelfth day, and removal of pain on the thirteenth day of the disease. As the attack commenced nine days before admission, we cannot suppose that the recovery was owing to the occurrence of a critical day. Besides, the good effects were apparent the day after the exhibition of the salt, and on the following day the pains had disappeared. The valvular murmur with the first sound at the apex, and the character of the pulse, could leave little doubt as to the mitral incompetency; and, as he had been previously subject to rheumatism, there is every probability that the cardiac lesion was the result of previous attacks of the disease.

Gout:—James M'Pherson, æt. 42, a seaman, admitted into the clinical ward, May 20, 1852. He states that his first gouty attack occurred about 15 years ago. He had not been exposed to any great changes of temperature, and neither of his parents, nor any of his relations, have had a similar disease. He has not been a particularly temperate man, but has never indulged much in malt liquors. He has enjoyed uniform good health, with the exception of these gouty attacks. He has had since the first one about seven others, which have rather increased in severity. They come on without any premonitory symptoms. The *first* began with pain in the dorsum of the right foot, confined to one spot, which was red and swollen. The symptoms slowly shifted to the ankles, first the right, then the left being affected. The attack confined him to bed for three weeks, when the symptoms disappeared, leaving no trace of their presence. He was free from the disease for two years. It then reappeared in the toes and ankles, similar to the former attack, but more severe, and longer in duration. The next was after an interval of eighteen months; it began in the toes, and extended to the

knees, elbows, wrists, and hands. Nodosities on the hands commenced about five years ago; and he has had about seven attacks altogether since. Every recurrence of the disease since then has increased the previously existing nodosities, and added new ones, which remain during the intervals of the acute attacks. Last year a swelling over the metacarpal bone of the index finger of right hand burst, and discharged during four weeks a white chalky deposit of the urate of soda.

At present the wound before mentioned has healed, but two others are discharging, one on the metacarpal bone of the little finger of the *right* hand, the other over the second joint of the ring finger on the *left* hand, and a third on the metatarsal joint of the left great toe. The hands are covered with nodosities, the effects of previous attacks. An inflammatory attack of a joint is always followed by great œdema, then by desquamation of the cuticle and chronic enlargement. He had an attack eighteen months ago; he recovered in about three months, and continued well and able to pursue his occupation till about a fortnight ago, when the first joint of the left great toe became red, swollen, and painful, and in about four days burst, and is now discharging. A box fell upon the part about three weeks before, but the pain caused by that accident subsided before the gouty attack. He takes food well, has never been subject to dyspepsia, but sleeps ill at night. ℞. *Sol. Morph.*, gtt. xx.; *Tinct. Colchici.* ʒss.; *Aq. Menthæ*, ℥j.; *Ft. Haustus. To be taken at night.*

Progress of Case.—Up to June 6th he took the draught above prescribed regularly every night, and had no complaint whatever, the ulcers healing, and the discharge abating naturally. On the 5th of June, however, pain, redness, and slight swelling of the left wrist-joint appeared, as if another attack was about to ensue. A bag containing ice and salt was applied to the part, and kept on for half an hour. The pain began soon to abate, and did not return. No other symptoms followed.

With the exception of slight *costiveness*, he continued well till the 20th of June, when he had similar premonitory symptoms, occurring in the right knee and ankle. Leeches were first applied, but afforded no relief. Ice was again used, and great decrease of pain followed. The knee continued weak for some time, but gradually regained strength. On the 27th June he was ordered colchicum in powder (5 grs. morning and evening).

Up to the 25th of July the patient was quite free from pain; but on that day it returned in the ankles and *left* shoulder, when a mustard blister was applied to the ankles, but without relief. Ice was applied (on the following day), and on the 31st July he was ordered 5 grs. of colchicum three times a day, the pain continuing, though less in intensity. From this time he experienced no further pains, and the nodosities had nearly disappeared on the 30th of August, when he was dismissed.

Commentary.—This case is remarkable on many accounts. In the first place, as being a patient of the Royal Infirmary, where cases of gout are so extremely rare, that this is the first I ever met there, while my colleagues, with their longer experience, have not had more than two or three in the clinical wards. Secondly, in the absence of all hereditary

tendency as well as of those other causes supposed to induce the disease. Thirdly, in the large nodosities under such circumstances, and the good effects of local applications of ice, in arresting the advance of gouty pains and swellings in other joints. The immunity of the Scotch from gout is popularly attributed to their frugal habits, and to the use of whisky instead of wines or malt liquors. Certain it is that the disease is scarcely ever met with in hospital practice.—*Month. Jour. of Med. Sci.*

Case of Catalepsy, illustrating some new principles of Treatment in Convulsive and Spasmodic Diseases. By C. B. RADCLIFFE, M. D.—William B—, æt. 12, residing with his parents at Shepherd's-bush Bayswater, was seized on the 1st of February last with a painless rigidity of his forearms and hands, which lasted without any interruption from tea-time, when it first made its appearance, until bed-time. Similar symptoms also recurred daily for many days, sometimes beginning early in the morning and lasting throughout the day, at other times merely showing themselves for a few minutes, while the patient was preparing for bed; and so they continued to do until the 28th, at which time they extended to the feet and legs, and in less degree to the upper arms, thighs, and trunk, consciousness being completely suspended, which was not the case previously. These general symptoms, which were evidently those of catalepsy, alternated with the more partial symptoms, occurring several times in a single day, and recurring throughout the whole of the next week, at the expiration of which period the case was brought to me.

During all these fits, partial or general, the rigid parts were cold,—so cold as to cause some of the bystanders to say they were dead. Cold, also, had evidently much to do in the matter as an efficient cause. In the earlier stages of the affection, playing out of doors (the weather at the time being very severe) invariably sent the patient into the house crying, with his hands and forearms immovable; and the exposure caused by undressing in a cold bed-room at night gave rise to the same symptoms. On the morning in which he was brought to me, also, the cold had acted in the same manner, and it was not until he had been some time seated in the warm room that the stiffening relaxed. I had thus an opportunity of satisfying myself that the parts which had lost their pliability were in reality cold, and that the pulse in them was almost extinguished, and the sensibility all but departed. I had the opportunity of satisfying myself also, that this depressed condition extended more or less to the system generally, and that all the mental and bodily functions were as far as possible removed from any thing akin to excitement.

The other facts in connection with this case all denoted the want of real power. He was any thing but precocious,—not walking for two years, and not talking for a year later, and now speaking with hesitation,—very slow in apprehension, feeble in memory, and, though twelves years of age, as irritable, uncertain, and fretful as an infant. His head is large; his eyes staring, and the pupils dilated and sluggish; his complexion sallow and venous; his hand cold and clammy; his pulse slow

(70) and feeble; his body prominent and hard; his skin unhealthy and covered with boils; his appetite voracious. Both parents appeared to be healthy; but a cousin of the mother suffered from fits of a similar character, and lost her life in one of them, by falling from a foot-bridge into a brook.

Acting upon received views, that *increased* irritation in the chief nervous centres had to do with the muscular rigidity, Mr. Roy, of Brookgreen, had tried the usual course of leeches behind the ears, blisters to the nape of the neck, low diet, mercurials, hot mustard fomentations to the feet, and so on; but finding the symptoms becoming more general and confirmed, he sent the case to me.

The treatment I pursued rested, on the contrary, on the supposition that if rigidity was dependent on a *diminished* supply of nervous and other motive stimulus, a view which I have elsewhere endeavored to substantiate in relation to all forms of muscular contraction, normal and abnormal. I therefore recommended that the patient should be kept *still*, and as warm and comfortable as possible; that animal food and good table-beer should be given him freely; that he should be undressed before the fire, and carried to bed wrapped in warm flannels, having been first for some time immersed in a hot bath; and that he should take every few hours a small teaspoonful of spirits of turpentine, with ten drops of aromatic spirits of ammonia, mixed up with a part of the yolk of an egg, in a little ginger wine.

A fortnight after this first interview, I saw the patient again, and found that the draught had occasioned a little irritation in the bladder, but so little that there was no necessity to discontinue the remedy. On the other hand it had put a stop to a troublesome and old-established habit of micturating in bed. As to the rest, there was a material improvement in every respect, the countenance being brighter and more energetic, and there having been no cataleptic rigidity from the day the stimulant and nutritive plan of treatment had been put in practice.

I saw the patient no more; but I learned from the mother, who called two months subsequently, that the treatment had been carried out for a month longer, that the fits had never returned, and that he was then in better health than he had been before.—*Lancet.*

On the Treatment of Sciatica, by Iodide of Potassium. By M. Izarie, L'Union Médicale.—M. Izarié commences his short communication on the use of iodide of potassium in sciatica with a saying of Majorlin, when an old man, that no remedy ought to be rejected without a trial, merely on account of seeming unsuitableness. This remark, he says, applies more particularly to remedies for nervous affections like sciatica, all of which remedies have more or less of an empirical character connected with them.

Iodide of potassium, he then goes on to say, is no new remedy. In some instances it has succeeded where other means have failed; in others it has failed equally. He has, however, been personally benefited by its use; and the wish to extend this benefit to others causes him to place the fact on record, as well as to mention two cases which led to the trial.

The first case is that of M. B—, a gentleman in his 56th or 57th year, of a bilious temperament, and whose only trouble had been an occasional twinge of sciatica. The attack in question happened in September, 1851, and was of very considerable violence. For fifteen days, bleeding, counter-irritation, and the local application of morphia, were tried without avail, when it occurred to the "officier de santé" in attendance to try the iodide of potassium. Eight grains were prescribed, in a little sugar and water, twice in the twenty-four hours. This was given for two days; and the result was that the pain abated after the first dose and ceased, not again to return, after the third.

The next case is that of M. de V—, æt. 30, also of bilious temperament. He says that he took iodide of potassium in the same quantity, for a violent attack of sciatica, being recommended to do so by his neighbor, M. B—, the patient last mentioned, and that by this means he cured himself in forty-eight hours.

The third case is that of M. Izarié himself, who was seized with sciatica while staying temporarily in the village in which the first two cases occurred. He had been in bed ten days and nights, when he heard from M. de V—of the cure effected by the iodide of potassium in his own case and in that of his neighbor. He tried the remedy, and was cured immediately, the pain yielded almost to the very first dose.

Such is the substance of M. Izarié's communication.

New Researches on Hæmatology. By MM. A. Becquerel and A. Rodier.—[The following are the conclusions of a long series of observations upon morbid changes in the blood, which have been recently communicated to the Academie des Sciences, and reported in the above-named journal.]

1st. In the majority of chronic maladies, and in various other unhealthy conditions, there is some increase or diminution in the normal proportions of the three principal elements of the blood—the globules, the fibrine, and the albumen, and this in a single, double, or triple order.

2d. The *globules* diminish in number in the course of most protracted chronic disorders, and especially in organic affections of the heart, the chronic form of Bright's disease, chlorosis, march-cachexy, hemorrhages of various kinds, excessive bloodlettings, the last stages of tubercular disease, and the cancerous diathesis. The globules disappear equally in those who are sunk in the depths of poverty, and exposed to the conjoined evil of bad and insufficient food, and of dark, damp, and ill-ventilated dwellings.

3d. The *albumen* of the serum of the blood diminishes, among other instances, in Bright's disease, the march-cachexy, advanced heart disease, great symptomatic anæmia, and in the state of ill-health induced by cancer and by poverty.

4th. The proportion of *fibrine* is unaffected, or slightly augmented, in acute scorbutus; but diminished in the chronic malady, especially in that symptomatic form which often complicates permanent heart disease.

5th. In all the cases already mentioned, the quantity of *water* contained in the blood is considerably augmented.

6th. The more prominent signs of a diminution in the number of globules are the following:—discoloration of the skin, palpitation, dyspnœa, *bruit de soufflet* at the base of the heart during its first sound, an *intermittent bruit de soufflet* in the carotids, and a *continuous* one in the jugulars.

7th. A rapid, though slight, *diminution in the quantity of albumen*, is marked by acute dropsy. A more gradual diminution is followed by the same symptom, but in this instance the loss must have been much more considerable than in the former one. Dropsy, in fact, is the characteristic sign of a blood deprived of its natural amount of albumen.

8th. A diminution in the normal proportions of *fibrine* is followed by hemorrhage of one kind or another—mucous or cutaneous.

9th. In the *anæmia*, which is symptomatic of copious hemorrhage, starvation, or exhausting discharges, the blood is less dense and more watery than natural, the globules are diminished in number, and the albumen and fibrine unaffected, or the former slightly wanting.

10th. In *chlorosis*, which is an affection distinct from anæmia, the blood may be unchanged. If it is changed, it has fewer globules and more water, and a natural or somewhat augmented proportion of fibrine and albumen.

11th. In *acute Bright's disease*, the globules and fibrine remain unaltered, and the albumen is wasted. In the *chronic* affection, the globules, as well as the albumen, are deficient, and not unfrequently the fibrine also, though to a less extent than the others.

12th. Most of the idiopathic *dropsies* are due to a want in the normal quantity of the albumen of the blood.

13th. In *fatal diseases of the heart*, the blood progressively becomes more and more impoverished in its three elements of fibrine, albumen, and globules, while at the same time it is rendered much more watery.

14th. In *acute scorbutus*, the blood presents no appreciable alteration. In the *chronic* affection, the blood is notably deficient in fibrine, while the globules are, sometimes at least, considerably increased.

15th. These facts should exercise a great influence in practice, as we possess the means of acting upon the element which may be wanting or changed. A tonic plan of treatment will be required when each of the three elements is deficient, combined with quinine, steel, or acids, according as the deficiency may be in the albumen, globules, or fibrine—one reason of the indication of acids in the latter case being the presence of free soda in the blood when the fibrine is deficient.—*Gazette Médicale de Paris.*

Report on Early Paracentesis Thoracis in Pleuritic Effusions. By W. H. Rankin, M. D.—The advantages of this practice are yet little known and admitted, and it is with much satisfaction therefore that we record the following particulars:

1. Dr. Hamilton Roe's communication to the "Lancet" is virtually the reproduction of the paper read before the Medical and Chirurgical

Society in 1849, the abstract of which is to be found in vol. IX. p. 204; and to this abstract, therefore, and to that of a former paper, read before the same Society in 1843, and reported in vol. I. p. 39, we refer our readers who are not acquainted with the valuable opinions of this writer.

2. Dr. Bowditch's researches tally completely with those of Dr. Hamilton Roe, as the following summary will show. He thus reviews his cases and the main facts in connection with them:

1. Three out of the eight patients were cured of the pleuritic effusion, and the operation had an important influence towards that end.

2. Three were materially relieved in their rational and physical signs.

3. Two were not relieved, for no fluid could be obtained.

4. No one suffered more than slight inconvenience from the puncture.

5. There were twenty-seven punctures, the largest number in any one case having been five. In two there was only one puncture.

In one case, three punctures were made in as many minutes.

Symptoms subsequent on the puncture.—After no one of the twenty-seven operations did any serious or unpleasant symptom occur. Some complained more than others of the pain of the puncture. But usually this subsided entirely as soon as the instrument was introduced, and firmly held by an assistant. Towards the end of the operation, a severe pain was at times felt, or a sense of distention, of stricture or of dragging; or, what was still more common, a peculiar, indescribable feeling of distress in the affected side. One patient compared it to faintness, and yet said she did not feel faint. *I always desisted when any severe symptom appeared.* There was sometimes a slight soreness about the part for a day or two, but never was there any suppuration or ulceration, and the wound closed instantly on the withdrawal of the canula. The results immediately following any successful puncture were very gratifying. In all, there was a *relief to the sense of oppression*, to the dyspnœa, and to the pain, when it existed. An ability to lie on both sides was gained by some often immediately, in others after 24 or 48 hours. A perceptible increase of physical power was manifested by all. They were able to move about with much more freedom.—The men usually were able to put on their coats with less labor, and some seemed to do so even with alacrity, so much comfort in breathing did they experience in comparison with the dyspnœa felt a few minutes previously. In addition to these evident signs, there was an exhilarated mental condition. The mind, as well as the lungs, seemed relieved of an intense weight, and displayed itself, among the more mirthful of our patients, in somewhat wild facetiousness and joke—while those of a more quiet temperament showed their delight of mind in a more sober style.

The *pulse* usually remained after the operation much as before. In one who recovered, it was accelerated for some time after the other symptoms had improved. It was noticed as fuller in one, immediately after the operation, it having been feeble previously. Generally, however, it lessened in frequency after a few days, even if it was destined to rise subsequently on a recurrence of the effusion.

The *cough* was augmented, in most cases, for a few days after the operation. A patient who experienced the greatest relief, and who for a

week had had no cough, was seized with one immediately after the fluid commenced flowing; and it was quite severe for about a week, with expectoration of nearly a gill the first day. Both symptoms ceased almost entirely after the lapse of time above named.

The *digestive functions* were usually improved. The appetite became better, or it commenced after there had been complete anorexia. In one patient, there was pain in the abdomen for two days subsequent, and, as it was combined with tenderness and tympanitis, I feared peritonitis. These symptoms disappeared soon after the administration of a cathartic.

The physical signs changed more slowly. In two cases, there was an evident improvement in the results of percussion immediately after the operation; in four I noted a diminution of dulness towards the upper part of the chest, on the next day. In two, there was a decided improvement throughout the lung in twenty-four hours. Usually, however, the lower parts were a long time in recovering their healthy tone. This I attributed first, to the fact that the lung, when much compressed, requires considerable time before it can be distended; and second, that commonly there is some thick false membrane covering the layers of the pleura, which must become attenuated before a healthy sound can be produced.

Inspection showed a change in the form of the thorax immediately after the operation in two cases. Commonly, this change took place in a much more gradual manner. There was a perfect restoration of the shape in one case.

A rubbing sound, observed in four cases, was noticed in the first twenty-four hours in two, and on the third day in the two others. It commenced usually over the breast, and thence gradually extended. I have heard it all over the lung, and in the majority of the cases it was quite distinct.

Ægophony.—The time of disappearance of this sign was noticed in only one case. In that, it had gone before the third day.

Once I found a fine crepitous râle existing in a lung, which had been relieved of compression forty-eight hours before. I presume it was owing to the gradual expansion of the compressed lung, because I could not hear it, save after a long breath, and there were no symptoms of pneumonia. *In this same individual, the râle that had existed at the apex of the other lung, and which I had regarded as probably indicating the existence of tubercles, disappeared within a week after the removal of the fluid*, leaving only an indistinct crumpling on coughing, and forced inspiration.

One very important sign was quite manifest in two of our cases, viz., *the falling back of the heart*, when it had been dislocated by a large effusion into the left chest. This I observed twice immediately after the operation, and possibly the same result would have been noticed in others, had I made a sufficiently accurate examination. In one of these cases, the patient perceived it, and said that he felt relieved of the soreness and thumping that had been about the right nipple, previously to the operation. But in all the cases, where there was such dislocation, the opera-

tion sooner or later removed it: the organ being longer out of place where pus was effused, than when simple serous fluid was formed.

The *respiratory murmur* was in all the cases a long time before its entire restoration, although a very decided change was produced in a few days. In one case only has this been perfect, after many months of illness. Two others may be in the category, but they are still under treatment. The character of the fluid in the chest has apparently some influence upon the result, as the following table will indicate. In four cases, two purulent, two not so, we have

	Respiration tolerably clear in.	Respiration quite clear in.
Purulent cases.	———	8 months or never.
Non-purulent cases.	24 hours and 3 days.	———

The reason for this difference is probably the existence of the thick membrane before alluded to.

Quantity and quality of the fluid removed, and their influence on the result.—The quantity varied from ℥ iv to ℥ xli. The medium of six operations was ℥ xxiv. Although the removal of a large quantity (30 or 40 oz.) gave very decided and prompt relief, as much apparent comfort was at times experienced when a smaller quantity (9 oz.) was removed.

The quality of the fluid was pure pus in two patients. Of these, one is now wholly well. The other is tuberculous. In four, it was a thin, yellow fluid, which coagulated on standing. Of these, one recovered; one has lost all traces of effusion, but she has tuberculous lungs. A third, having cardiac disease, died, but the effusion never returned to so great an amount after the operation, and life was prolonged by the operation. In the fourth, there was probably coagulation of the fluid in the chest, and it could not be drawn off. My inference from these facts is, that the quality of the fluid cannot afford us any indication as to the prognosis, save that when a purulent fluid occurs, a longer time is occupied for cure, as we have previously stated.

Finally, a bloody fluid was found in one. He did not recover.

Our cases are so few that we can give but little positive information upon the effects produced by the age of the patient and the duration of the disease, upon the ultimate result of the operation.

In six cases, the average age was thirty-three and one-third years; the oldest, fifty-six; youngest, twenty-eight.

Great age has been generally considered unfavorable for the operation of paracentesis. Of three of my cases, in which one got wholly well, and the others are rapidly improving, though still under treatment, the average age is twenty-nine and one-third, or four years less than the average. Of the three other cases, none of which have been *permanently* improved, the average age is forty-two, or more by nine and a half years than the average.

The length of time the disease has lasted is of as much importance,

perhaps, as the age of the patient. The respective durations of the disease previous to the operation in the three cases above named, in the first category, were six weeks, two weeks, and ten days; average, twenty-two days.

In the last three, one had had dyspnœa seven years, and had grown much worse during the previous seven months. In the next, the patient had been ill ten weeks, of pleurisy, and had had hæmoptysis. Finally, in the third patient, the disease had lasted for three months.

As far as our cases go, therefore, they prove that youthfulness on the part of the patient, and early puncture, give more favorable results than the contrary conditions.

3. Dr. Beyran, also, is in favor of the early operation; and in support of his views, he relates the particulars of three cases occurring at Constantinople in the early part of last year, two of which were successful.

Case 1.—Margos, aged 28, a sawyer, exposed to alternations of heat and cold, was seized with pleurisy on February 3d, 1851. On the 9th, he was admitted into hospital, with signs of effusion in the right pleural sac. On the 11th, the respiration becoming more and more impeded, Dr. Beyran punctured the thorax between the seventh and eighth ribs, by means of the trocar of M. Reybard. Six and a half pints of transparent serous fluid escaped. A piece of diachylon plaster and a bandage were applied. After the operation, he gradually recovered; and was discharged cured on February 26th; and has since remained well.

Case 2.—Serpoulic, aged 32, a washerwoman, had been ailing for some days, with a pain in the left side of the chest, when she accidentally burnt her legs, on April 13th, and was brought to the hospital. The next day, the most urgent symptoms were those of extensive effusion into the left pleura. Blisters and diuretics were used, without effect. On the 16th, as the patient was threatened with suffocation, Dr. Beyran punctured the thorax. The patient being fat, an incision was made first down to the ribs, until fluctuation was distinctly felt with the finger; the bistoury was then introduced, and five pints of yellow transparent fluid were removed. The flow was then suddenly arrested to prevent the access of air; plasters, graduated compresses, and a bandage were applied. In half an hour, the stroke-sound was normal, except at the lower part; and the respiratory murmur could be heard. The patient was calm. The next day she was much better; and on August 18th she left the hospital completely recovered.

Case 3.—Dr. Beyran was called in consultation in the case of Mlle. M. Narisen, who was seized, on December 2, with pleurisy of the right side. He saw her on the 12th, when he diagnosed effusion into the right pleural sac. The patient also had tenderness in the hypochondria and epigastrium, with nausea and vomiting. Dr. Beyran recommended paracentesis; but could not prevail on the other medical attendants to have it performed until several days after. It was then performed, when suffocation was imminent, by puncture with a bistoury.

The patient appeared relieved for a time; but died exhausted in eight hours after the operation. Before her death, she complained of much pain in the region of the stomach.—*Rankin's Abstract.*

Report on Syphilization. By C. B. RADCLIFFE, M. D.—The startling notions conveyed in the term "*syphilization*," which have for some time past excited considerable attention in France, Italy, and Germany, had their origin in a series of experiments instituted by M. Auzias-Turenne, for the purpose of testing the validity of Hunter's doctrine of the non-communicability of syphilis to the lower animals. It was supposed that Hunter and his successors might have failed from having experimented upon animals too far removed from man, and the result showed the correctness of this idea, for on inoculating apes with the virus, these poor creatures exhibited speedy proof that a pustular and ulcerative disease had been communicated to them. The question was as to the nature of this disease. M. Auzias-Turenne thought it syphilitic, and so thought the Académie de Médicine, when the matter was first brought before it; but eventually the latter body yielded to the influence of MM. Cullerier and Ricord, and changed its opinion. The facts, however, remained and multiplied. There could be no doubt that a disease had been communicated to the apes, and that this disease was contagious, for it was communicated from these apes to other apes, and also to rabbits, cats and horses. Indeed, such were its appearances, that there seemed to be every reason but one for believing it to be syphilis, and that was the communication back again to man; and even this was not long wanting, for—thanks to his rashness—M. Robert de Weltz, one of the professors in the University of Wurtzburg, inoculated himself from a cat, on four separate occasions, and each time produced a true and unmistakable chancre.

This discovery issued in one more surprising still, upon which the process of syphilization is founded, namely, the strange and curative change which comes over the phenomena of the disease when the inoculations are many times repeated in the same individual. Experimenting upon apes, it was found that the artificial ulcers regularly diminished in size and virulency, in proportion as the inoculations were multiplied, until at length the virus ceased to take effect. The system seemed to become protected, as in ordinary inoculation and vaccination; and the process by which this is accomplished is that to which the name *syphilization* belongs. This result, also, is all the more surprising, because reiterated inoculations were evidently essential to it, for only once inoculated and then left to themselves, the poor apes speedily perished with all the signs of the syphilitic cachexy.

Having satisfied himself of the reality of these results, M. Auzias Turenne then proceeded to inquire whether man was capable of syphilization. He had many ardent followers who eagerly submitted to the experiment, and who shortly seemed to furnish evidence in the affirmative.

This pretension excited great opposition, particularly in the Académie de Médicine, where a long and violent discussion took place on the case

of a Dr. L—, a German physician, who had submitted to the experiment, and who, instead of being cured by it, had become covered with phagedenic ulcers. In other quarters, however, the impression was more favorable. At Turin, M. Casimiro Sperino, the chief surgeon in the Syphilicoma, or syphilitic hospital of that city, at once took up the new views, and put them to the test on a large scale. He was favorably inclined towards them, he tells us, for several reasons. He had observed that severe inguinal buboes are more apt to follow small and insignificant chancres, which heal in a few days, than those which are large and obstinate. He had observed that the likelihood of constitutional symptoms held an almost inverse relation to the severity and continuance of the local disease, and had known many prostitutes, whose constitutions had never been sensibly affected, who had had chancres for years, either constantly open, or closed only to open again immediately. He had repeatedly satisfied himself that foul buboes were more prone to heal in those cases in which their syphilitic character had been tested, after Ricord's plan, by inoculations on the surrounding skin.

The subjects of M. Sperino's experiments were fifty-two hospital patients, all prostitutes, and all suffering from aggravated forms of primary or secondary syphilis. The virus was taken from the person syphilized, or from a comrade—from the first, if possible—and always from a growing ulcer. The inoculations were repeated once or twice a week in three or four distinct places, usually in the abdomen. The time required for the establishment of the artificial chancres was from two to three days. The effects of the second inoculations were less serious than the first, the third than the second, the fourth than the third, and so on until the virus ceased to produce any effect whatever, contemporaneously with which epoch, all former ulcers had healed, and buboes, recent nodular enlargement of bones, and cutaneous stains or blotches, had either disappeared, or were in rapid process of disappearance. The virus, also, which made no impression at this time, was found to retain all its virulence when tried upon an unprotected person.

Since this time, M. Sperino has shortened the intervals between the several inoculations, and has increased the number of punctures in each operation to twelve, sixteen or twenty, and with the effect (he tells us) of expediting the process, and of insuring a slighter form of artificial chancre. He has also subjected his syphilized patients to a course of bathing in the sulphureous waters of Acqui, which waters are notorious for their power of bringing out secondary symptoms in the subjects of syphilis, and he has found them to resist this test as well as that of inoculation.

Such are the main particulars of these fifty-two cases, as gathered from M. Sperino's communication to the Academy of Medicine and Surgery of Turin. No other treatment was employed. They are said to have been, without exception, of an aggravated character, and without any spontaneous tendency to heal. For a month before the institution of the experiments, they had been purposely left without any treatment, and during this period they had retrograded.

Such is M. Sperino's case. At first sight, the impression is that his conduct was scarcely warrantable; and of this it is difficult to divest our-

selves, so long as we consider the suffering, the confinement, the foul cicatrices, and the doubtful results; but at the same time it is necessary to remember that each of these women submitted with readiness, and even eagerness, and that every case was of such a nature as to render it very problematical whether a cure would have been effected in a shorter time by any known means. At second sight, the results seem strange and incredible; but here, again, it must be remembered that these experiments were carried out in a public hospital by a man of known reputation, that public attention was strongly directed to them, and that they have been subsequently repeated and confirmed in some other hospitals, by M. Gamberini in St. Ursula, at Bologna, and by M. Gulligo, in a hospital at Florence. Mere improbability, indeed, is no sufficient objection; but time and additional evidence are both wanted, before we can come to a decision on so important a subject.

Meanwhile we select for illustration a detailed case published by M. Zelaschi in the *Gaz. Med. del Assoz. degli Stati Sardi*, which case has been taken from that journal and commented upon by M. Diday, in the *Gazette Médicale de Paris* for July 10th, 1852. The case is long, and somewhat inconclusive; but it has the recommendation of having been got up under M. Sperino's supervision, and published with his consent.

Case.—Carlo T—, æt. 29, of sanguine temperament and good constitution, contracted, in May 1851, a primary chancre on the edge of the prepuce. On the side of this ulcer was a large induration, the remains of a similar accident caught in November, 1850, which had been treated by local means only. He had suffered once previously, and on this occasion the sore had healed spontaneously, after a period of three months.

On first seeing the patient, the chancre was thirty-five days old, with an extraordinary extended and indurated base. It had been thrice cauterized, and the effect of this mode of treatment had been to inflame and irritate it exceedingly.

Resolving to treat the case by syphilization, M. Zelaschi made (22d June) two punctures on the inner and inferior surface of the right thigh, with a lancet impregnated with some matter taken from the chancre in the prepuce. On the 25th, these had given rise to pustules. The same day, two additional punctures were made by the side of the first, and with the same matter, and these, likewise, were converted into pustules in the same time as at first.

Notwithstanding this, however, the prepuce became more painful and more purulent.

On the 20th, acidulated drinks, with a laxative draught, were prescribed. On the 27th, after a good deal of pain in the right groin, a bubo made its appearance, for which emollient cataplasms were used. On the 27th, two punctures were made with the virus from the first artificial ulcers, and a third with virus from the prepuce; all of which resulted in pustules. Again, on the 1st of July, three punctures were made in the inner surface of the same thigh with matter from the artificial ulcers; all of which had taken effect in three days.

The ulcers of the first two inoculations are very painful, and the chancres on the penis still continue to increase.

On the 5th, two punctures were made in the right thigh with matter obtained from the sore in the prepuce; on the 8th, three on the left thigh; and on the 10th, four by the side of the last. All these took effect. At the same time, an unsuccessful attempt was made to inoculate with the matter of a gleet existing in the same patient.

On the 10th, the ulcers from the first two inoculations were painful, purulent and irritable, one or two of them having very hard bases. The ulcers and subsequent inoculations progressively smaller, less painful, and less irritable. The bubo is stationary, but not so the chancre on the prepuce, which is highly inflamed and irritable—a great proportion of the prepuce being now destroyed by it. Inoculation suspended.

On the 10th, 13th and 17th, laxatives and diluents were ordered along with frequent baths, and fomentation, either of simple water, or of decoction of mallows. On the 21st, the excitement and local irritation were such that it was thought proper to bleed twice. For the same reason, he was also bled on the 23d and 24th.

On the 29th, the inflammation was evidently abated in the penis and in the artificial chancres, and, with the exception of the first two, all seemed in the way of improvement. Those of the 5th, 6th and 7th were almost well. The glandular engorgement of the groin almost gone; but the chancre on the penis is still angry and growing.—(Dressings with emollient cataplasms, frequent tepid fomentations; leeches to the anus.)

The 4th of August, the ulcers of the last three inoculations have cicatrized, and the others are improving manifestly; but the sore of the prepuce has extended to the glans, and two additional chancres have made their appearance on the dorsum penis, and a third in the passage. Ten days later, the two ulcers of the first inoculation, and one of the second, are fungoid and indolent. All the other artificial sores have healed. The chancre of the prepuce still gains ground. At the same period there appeared, in various parts of the body, copper-colored, flat blotches, unattended with itching, and a few nights afterwards there was some pain and tumefaction in the upper parts of the tibiæ, the blotches all the while becoming more and more confluent.

Things being in this state, and antiphlogistic measures having been unattended with any good results, M. Zelaschi, with M. Sperino's approval, resolved upon a new and more decided trial of syphilization. On the 20th, therefore, twenty punctures were made in the abdomen, with pus taken from another patient. All these came to maturity on the 23d. Fourteen punctures were made in the same region, with matter from the patient's prepuce, of which twelve resulted in pustules.

On the 27th, and again on the 30th, nitrate of silver was applied to the sores remaining on the thighs, and acidulated drinks with the cold lotions and cataplasms were ordered to be persevered in. The ulcers from the inoculations on the 20th inflamed and painful. Fifteen additional punctures were made in the left iliac region, eleven of which came to maturity.

On the 31st, the pain in the bones of the leg relieved; the progress of the eruption stayed; the ulcers of the 20th improving. This day

twenty punctures were made on the abdomen with matter obtained from these ulcers, and of these eighteen became converted into small pustules.

On the 6th of September the improvement was more marked: the ulcer on the penis in great measure healthy, except where the glans is implicated; the ulcers caused by the inoculations of the 20th and 23d of August are quite well; those of the 27th and 31st are nearly well, and several of the pustules have dried up without opening. This day five punctures were made with matter from another patient, and five pustules resulted.

On the 12th, nine punctures were made from these pustules, and nine small pustules resulted.

On the 15th, six other punctures with the same virus were made, and failed altogether; the ulcers on the penis all rapidly healing or healed; the induration nearly gone.

On the 20th, twenty inoculations were made with virus from another patient, and from these originated seventeen small pustules, which, with the exception of two, dried up without bursting.

On the 25th, all the artificial sores are healed, and the chancre of the prepuce nearly well. This day and on the 11th of October fifteen punctures were made, nine the first time, and six the second, without any result. Thrice afterwards fresh virus was applied to the remains of the original chancre, but this proceeded not the less steadily in the process of cicatrization.

On the 9th, almost all the syphilitic blotches had disappeared, and there was an abundant desquamation where they had been.

On the 11th, six punctures were made, and ten on the 19th, but none of them came to any thing, though in these cases, as in several of the later ones, the virus was taken from another patient, and showed itself in others to be eminently contagious. The process of *syphilization* was now complete, and what is more, the patient had not only ceased to be sensible to inoculations with the syphilitic virus, (and many additional attempts were made subsequently, as well as those which have been stated,) but he had lost every sign of his former disease except the cicatrices of the ulcers. The patient, in fact, was quite well, and able to return to his work, which he did.

On the 8th, nine new inoculations were performed, whence resulted three small pustules, not larger than a pin's head, and passing three days without opening.

In commenting upon this case, M. Diday admits that the result appears to be favorable to syphilization,—that the healing of the chancres followed immediately upon the vigorous and effective carrying out of the inoculations,—and that the constitutional syphilis gave way contemporaneously, and without any other treatment. Still, he cannot decide whether these changes are *effects* or *coincidences*. He derives an objection from the duration of the case,—namely, three months and ten days,—and intimates the possibility that the local and constitutional symptoms may disappear spontaneously in this time. He thinks also that the discontinuance of the bleedings and poulticings might have

something to do with the healing of the original chancre. He cannot understand why the inoculations produced no good effect in the first instance, if they were the real curative agents in the second.

As it appears to us, however, none of these objections are of real weight, except the last, and even this is not altogether satisfactory, for the sores produced by the inoculations in the first instance were progressively milder in their character, and the original chancre, for any thing M. Diday knows to the contrary, though bad enough, might have been worse if it had not been for these inoculations. There is also a weighty argument in favor of the views of M. Auzias-Turenne, which M. Diday forgets altogether, and which we feel bound to mention, though without pledging ourselves to one view or the other. This is, the rapid improvement which takes place *in spite* of the continued and abundant introduction of new virus from other patients. This fact, in our opinion, altogether removes the case under consideration from the list of those in which single infections have worn themselves out in time, and imparts a novel and remarkable interest to these cases of syphilization.

In the Académie de Médicine the debate ran upon the moral and not upon the scientific merits of the case. The idea of syphilizing a pure person as a prophylactic measure so horrified the members, that the real question at issue, or that which ought to have been at issue, the reality or non-reality of syphilization, was never gone into. This will appear when it is stated that the experiments of Turenne, Sperino, Marchal (de Calvi), and others, were altogether ignored, and that the only evidence admitted was the case of the young German physician, M. L—, in which M. Turenne says and proves that syphilization had never been properly carried out. We would venture also to dissent from the verdict of the Académie for two other reasons. The one is that that verdict was chiefly got by M. Ricord, who is too deeply pledged to opposite views to be an impartial judge; the other is that M. Malgaigne entered a protest against it.—*Rankin's Abstract.*

SURGERY.

Treatment of Bronchocele by Ligature of the Thyroid Arteries. By M. Porta.—The superior thyroid has been tied in many cases of bronchocele, but the following case is the first in which the superior and inferior thyroid were tied at the same time:—

The patient, a peasant between 17 and 18 years of age, was admitted into the General Hospital at Pavia, in July, 1850, for a circumscribed, rapidly-growing goitre of the left side of her neck. The case was considered a favorable one for the double-ligature, and that operation was performed on the 28th of the month.

The incision was that for tying the common carotid. Then the cellular tissue towards the inferior part of the opening was broken up with the finger, and the inferior thyroid felt beating between the trachea and the trunk of the common carotid. The ligature was passed by one of Lawrence's needles and tied. The superior thyroid was then secured without any difficulty, as its course lay superficially across the upper angle of the incision.

The issue of the operation was a little retarded. First an abscess formed, and after this there was an obstinate hemorrhage from the neighborhood of the superior thyroid, so that the wound had not cicatrized until the end of October.

The cure, however, was complete; indeed when the wound healed there was neither tuberosity nor rigidity, and the neck had recovered its natural dimensions. The account further goes on to say that there was no return of the malady six months afterwards.—*Rev. Méd.-Chir. de Paris.*

Case of incised injury of the knee-joint, with recovery without amputation. By ROBERT MARTIN, Esq., Holbrook.—[The following case is reported as establishing the fact contended for by modern surgeons, that severe injuries to large joints, even with extensive penetration of their cavities, do not invariably require amputation.]

"John Rumsey, aged 37 years, while mowing grass, March 8, 1849, fell with his bent knee on the edge of his scythe, which divided the whole anterior part of the joint, the ligamentum patellæ and lateral ligament. To all appearance the leg hung by the integument on the back of the limb, by the posterior ligaments and the flexor tendons. The patella was retracted, and a breadth of four fingers could be readily inserted between the head of the tibia and the condyles of the femur. On first visiting the patient, the question of amputation immediately suggested itself; but eventually the limb was placed in a comfortable position, with the heel raised, and the edges of the wound brought together with sutures.

"On visiting the case some hours after, Mr. Martin found the patient free from pain, the limb easy, and no constitutional disturbance. All went on prosperously for three days, when heat and pain, with profuse discharge, rendered it necessary to remove the dressings, the edges of the wound retracted, and the fearful extent of the wound became apparent; extensive abscesses formed in the course of the surrounding tissues, and high irritative fever set in. These symptoms, however, gradually yielded to treatment; and after fourteen weeks' treatment in bed, and a further confinement of three months, he was enabled to get about; and now, at the end of eighteen months, he again maintains a large family by his labor as a husbandman.

It will be noticed that, although great pains were taken during the progress of anchylosis to keep the leg straight, yet the inflammation and consequent shortening of the biceps flexor cruris, and outer head of the gastrocnemius, have produced a necessity in progression for eversion of the foot.

"Although aware that Dr. Rhea Barton and Dr. Gibson, both of Philadelphia, are reported to have successfully operated for the removal of anchylosis of the knee-joint, I am too well satisfied with the result of this case to contemplate further interference."

[We had an opportunity of seeing the subject of this case, and were not more struck with the surprising power of nature in allowing recovery from so frightful a wound, than with the surgical skill which mainly promoted it.]—*Rankin's Abstract.*

PART FOURTH.

AMERICAN MEDICAL RETROSPECT, AND EDITORIAL.

PATHOLOGY AND PRACTICAL MEDICINE.

An Account of the Post-Mortem Examination of the late Hon. Daniel Webster. By J. B. S. JACKSON, M. D., Prof. of Pathology in Harvard University.—The emaciation was very marked, as shown by the state of the integuments and muscles; the latter being wasted, pale, and flabby.

Abdomen.—The peritoneal cavity contained eleven pints of serum. There were also old and strong adhesions about the spleen, the gall-bladder, the cœcum, and to a small extent between the left extremities of the arch of the colon and the parietes of the abdomen. The stomach was distended, and contained half a pint of very dark blood, about one half of which was in the state of a soft coagulum; and this was the only appearance that was found of coagulum in any part of the body. The mucous membrane was deeply stained by the contents, generally rather soft, and in the pyloric portion somewhat mamellonated. The intestines were opened throughout, washed, and fully examined with reference to the diarrhœa that had so long existed. Blood was found throughout in very considerable quantity as far as the descending colon, below which there was no trace of it; in the large intestine it was altered as usual in color. Mucous membrane stained by the contents so far as blood extended. In the large intestine were numerous herniæ of the mucous membrane, so common in this situation; from many of these, small masses of fæces or of mucus could be forced out, and these were the only traces of fæces that were found. Otherwise, the mucous membrane of the intestines appeared quite healthy; there being nowhere any ulceration to explain the diarrhœa, or ecchymosis connected with the hemorrhage. The liver was, throughout, very markedly granulated; dense, and contracted in size; the color externally was greenish or bronzed, but internally every where of a pale red, showing, as we may not very unfrequently observe, the inappropriateness of the term "cirrhosis," which would generally have been applied to the present case. Weight of the

organ, three pounds and one-third, avoirdupois. Bile in the gall-bladder nearly black, and of a tarry consistence. Spleen small, pale, and shrivelled. Investing membrane to some extent opaque, white, thickened and condensed; this change being probably due to the old peritoneal affection. Kidneys and pelvic organs healthy.

Thorax.—Old pleural adhesions over nearly the whole of the right side; none on the left. Lower lobe of the left lung, and the two lower lobes of the right much congested, and very dark; a change that undoubtedly occurred toward the close of life, being simply passive. Heart flaccid; very little blood in cavities, and this was quite liquid. Slight disease of aortal valves, but organ otherwise healthy. Foramen ovale; a small valvular opening existed. Aorta not ossified, except to a small extent in the abdomen.

Head.—The membranes of the brain were most remarkably diseased. In the cavity of the arachnoid was a layer of fibrine, which covered almost entirely and about equally the convexity of both hemispheres; it did not extend, however, beneath or between them, nor about the cerebellum. In the recent state, it had a rather dull, yellowish, infiltrated, œdematous appearance, being one-fourth of an inch in thickness over the upper surface, but becoming gradually more thin on the sides, where it terminated in a thin edge. The adhesion to the dura mater was in some parts quite close: but it was generally very readily stripped off, and left the arachnoid with its usual polish. It was more adherent to the sub-adjacent membrane, this last being irregular, and having generally a clouded and slightly opaque appearance, with many milk-white spots, but without any appreciable thickening. The quantity of serous effusion into the membranes was altogether large. The subarachnoid tissue corresponding to the layer of fibrine above described, was infiltrated with a straw-colored serum in some places, separating the convolutions from each other; this separation was quite remarkable at the posterior part of the right cerebral hemisphere on its upper surface and near the median line, there being also a slight depression at this part. The dura mater adhered firmly to the calvaria, but was healthy in structure, as were the membranes otherwise; there was, however, a serous infiltration into each plexus choroides; though no more, if not less than usual, into the lateral ventricles. No appearance of recent meningitis, and no effused blood or cysts in or about the false membrane. The brain itself was perfectly healthy, and the arteries at the base very nearly so. Cranium healthy. Over the right frontal region a scar existed, the result of the injury that occurred last May; integuments not otherwise remarkable. A portion of the fibrine from the arachnoid cavity having been removed for microscopical examination, it was found, some hours afterwards, and when the serum with which it had been infiltrated was absorbed, to have almost the consistence of one of the natural tissues of the body, being strong enough to bear considerable traction; it also appeared, then, to have somewhat of a laminated structure, and blood-vessels were distinctly seen in it with the naked eye. Dr. Wyman found it "organized, and, in some places, vascular. Under the microscope, the lymph was resolved into minute fibres, like those forming the white fibrous element of areolar tissue, and including in their meshes large numbers of minute granules."

Recapitulating the points of interest in this case, it will be observed that the immediate cause of death was hemorrhage from the stomach and bowels. For this no source could be found in the lesion of any vessel; it must, therefore, be regarded as a simple exhalation, dependent upon a disorganization of this fluid, indicated, moreover, by the almost entire absence of coagulation. The relation of this hemorrhage to the disease of the liver will also be noted as coinciding with previous experience; it being well known, that, in certain cases where there is an altered action of this organ, there is a tendency to disorganization of the blood, manifesting itself thus in hemorrhage.

The morbid appearances observed in the cerebral membranes possess, also, very great interest in several aspects. It will be unnecessary to dwell upon the particular appearances carefully described above. A very full and clear description of these interesting forms of extravasation has been published by Mr. Prescott Hewitt, in the twenty-eighth vol. *Medico-Chirurgical Transactions of London*, and the appearances, in this case, coincide with those there described. Grisolle (*Pathologie Interne*, vol i.) has also well described this affection, after the original descriptions of Serres, Baillarger, Boudet, and Prus, who were the first to call attention to this particular lesion. The case of Mr. Webster may be regarded as unique, however, in this respect, that no impairment of the power of the nervous system was observed before death; for although a few symptoms, such as his mode of locomotion, his sense of falling, and a slight hesitation of his speech, may now be remembered and connected with this condition, it will be sufficient to prove the entire absence of any suspicions of the kind during life, to state that the brain would not have been examined at the autopsy, except for the desire of making the measurements, &c., recorded below. The connection of this meningeal hemorrhage with the cirrhus of the liver will also give rise to interesting speculation; for although it is quite probable that the origin of the effusion should be ascribed to the accident in May, still, it is not unlikely to be remotely dependent upon the disorganization of the blood consequent upon the disease of the liver, since among Mr. Hewitt's cases there are some recorded where an effusion quite equal to this took place in connection with a cirrhus, without any injury at all. It is possible, moreover, that the accident may not have been the cause of the effusion, which may have taken place since that time; but, in the presence of what would appear an adequate cause, it will be unnecessary to look beyond.

In the treatment of the disease, attention was particularly directed to the duodenal obstruction, relief from which was obtained by the laxatives occasionally administered, and these, with opiates, were almost the only important medical agents.

The following very interesting account of the cranial cavity and brain, is furnished by Dr. Jeffries Wyman: The dimensions of the brain, as indicated by the measurements of the cranial cavity, were as follows:—Longitudinal diameter, $7\frac{7}{8}$ inches; transverse diameter, $5\frac{3}{4}$; vertical, $5\frac{1}{2}$; breadth of occipital fossa, $4\frac{3}{4}$; breadth of frontal fossa, 5. The posterior clinoid processes were seven-eighths of an inch in front of the centre of the cranial cavity.

The circumference of the head was 23¾ inches, and the distance from the meatus of one ear to that of the other, over the top of the head, was 15 inches. The capacity of the cranium, determined according to the method adopted by the late Dr. S. G. Morton, of Philadelphia, was 122 (one hundred and twenty-two) cubic inches.

The substance of the brain was firm to the touch, and, as regards color and consistence, appeared to be healthy. The depth of the spaces between the convolutions was, on the vortex, seven-eighths of an inch, and the "cortical" or gray substance, was three-sixteenths of an inch in thickness. The corpus callosum, or the great cerebral commissure, was large, measured four inches in length from before backwards, and at the central portion was one-fourth of an inch in thickness. The pineal body, as in the great majority of instances, contained calcareous concretions.

The weight of the brain, including the cerebrum, cerebellum, and medulla oblongata, as far as the lower extremity of the pyramids, was (in avoirdupois):

	Lbs.	Oz.	Dra'ms.	Grs.	Grains.
Brain (encephalon)	3	5	8	17.75	=23,424.0
Cerebrum . .	2	14	7	14.09	=20,330.5

The measurements which have been given above are, almost without exception, of unusual proportions. The average length of the cranial cavity does not exceed six and a half inches; its transverse diameter is five inches, and the vertical a little less.

The cranial capacity was very unusual, the largest which has yet been recorded, though measurements in cubic inches have as yet been made by comparatively few observers. In Dr. Morton's tables of the measurements of 623 crania of different nations, including Caucasians, Mongolians, Malays, Americans and Negroes, only four instances occur in which the capacity exceeded one hundred cubic inches; of these the largest were one English skull, measuring 105, and one German, 114 cubic inches. According to Dr. Morton, the average capacity for the Teutonic family (including English, Germans, and Anglo-Americans) is 92 inches.

The two superficial measurements of the head were very nearly those of Cuvier, the circumference of whose head was 22 inches 4 lines (French,) and the measurement from ear to ear over the top was 15 inches. The circumference of Napoleon's head is reported to have been 23 inches.

The weight of the brain deviated much less from the average than the measurements; it was entirely out of proportion to the unusual dimensions of the cranial cavity. The average weight of an adult healthy male brain is 49½ ounces, or 3 pounds 1½ ounces avoirdupois. As has been already stated, there existed an effusion of serum into the subarachnoid areolar tissue, and of serum and lymph into the arachnoid cavity. The lymph had existed for a long time; it covered the convex surface of the cerebral lobes, was a quarter of an inch in its thickest portion, and extended to the sides, where it became quite thin. Both

serum and lymph, there can be no doubt, encroached upon and occupied the space once filled with cerebral substance. The weight given above, therefore, cannot be regarded as being equal to the weight of the brain in a state of health. This last we now have no means of determining except by an approximation, which has been made in the following manner, in accordance with a suggestion by Professor Treadwell, of Cambridge.

The specific gravity of the brain is, according to Cruveilhier and others, 1030, water being 1000. A cubic inch of water weighs 252.5 grains, and 122 cubic inches (the cranial capacity) would equal 30.805 grains, to which must be added 3 per cent., or 924 grains, (the excess of specific weight of brain over water,) which gives 31,829 grains as the full capacity of the cranial cavity in weight for cerebral substance. The brain, however, does not actually fill the whole cavity; a correction must, therefore, be made for the spaces occupied by the tentorium, falx, sinuses, the dura mater of the calvaria, and the cephalo-spinal fluid at the base of the brain. If we deduct eight ounces for such spaces, we shall have an actual weight of 28,329 grains; or, if nine ounces are deducted, 27,891 grains. Taking the last approximation as the one the least liable to error of excess, Mr. Webster's brain will be found to rank among those whose brains are generally cited as instances of remarkable size, as follows:

	Lbs.	Oz.	Drs.	Grs.	Grs.	Oz.
Cuvier,	4	0	5	10	= 28,147	= $64\frac{1}{3}$
Webster,	3	15	12	0	= 27,891	= $63\frac{3}{4}$
Abercrombie,	3	15	0	0	= 27,562	= 63
Spurzheim,	3	7	1	0	= 24,089	= $55\frac{1}{16}$
Dupuytren,	3	1	10	27	= 21,738	= $49\frac{11}{16}$

The brains, the weights of which (in avoirdupois) are included in this table, are not the only ones on record remarkable for size. In the table of Dr. Sharpey, already quoted, there are enumerated as weighing between 55 and 59 ounces, avoirdupois, inclusive, 28 brains; and between 60 and 65 ounces, 7. Nothing is said of the individuals from whom they were taken; of the two largest, one weighed 63 and the other 65 ounces; it is not improbable that these were the brains of Abercrombie and Cuvier; 63 ounces being precisely the weight of the former. In making out the table, all instances with fractional parts were classed with the next integral number; and as Cuvier's brain weighed over 64 ounces, it would rank as 65 ounces. If this be not the explanation, then there is on record a larger healthy brain than that of Cuvier.—*Am. Jour. of Med. Science.*

SURGERY.

On immediate amputation after injuries. By Professor W. E. Horner.—The surgeon most influential in obtaining the present professional conviction in favor of immediate amputation after injuries requiring the resection of the limb, is unquestionably the celebrated Baron

Larrey. His surgical life began in 1789, and was continued with great activity for the next twenty-six years, when the downfall of the Emperor Napoleon composed the disturbed state of Europe. In this long service he was the constant attendant of his celebrated master, and present at all his great battles as Surgeon-in-Chief. His amputations were sometimes fifty or sixty a day, and, on one occasion, amounted to two hundred. Seeing for himself to such an amazing extent, and receiving the most authentic reports from all quarters, it would be difficult to find elsewhere such an amount of information. It would appear that under his observation more than three-fourths have recovered, which he ascribes to a more correct appreciation of the time for operating, to more methodical dressing, and to a more simple and less painful process than in preceding times. His rule is, that when a limb is so shattered that it cannot be saved, amputation should be done in the first twenty-four hours.

Immediate amputation is, however, far from being the universal doctrine of the French schools. The Baron Percy, as previously remarked, disallowed it in his manual for army surgeons, published in the year 1792, but understood to have been well received at a comparatively recent date. And Blandin, so late as 1829, leaves us with the same conclusions in regard to his sentiments.

The American surgeons, in the war of 1812, followed to a large extent the prevailing French and English practice of that period; among them we may mention Dr. Mann; yet he states that after the battle of Little York and Fort George, a less number survived primitive than consecutive amputation. Three or four, it appears, died immediately after the operation, whereas there was not a single case of death during the campaign (1813) occasioned by consecutive amputation. We regret that he has not furnished us with the results of more than thirty amputations executed after the battle of the 11th of September, 1814, on Lake Champlain, rendered more memorable by the naval victory of Commodore McDonough. Dr. Amasa Trowbridge, also an experienced surgeon of that time, and still alive, has given his testimony in favor of immediate amputation when there is no prospect of the ultimate restoration of the limb.—*Med. Exam.*

Extensive Fracture of the Spinal Column; Complete Division of the Cord; Life Continuing two months.—Dr. PARKMAN presented the specimen for the Society's cabinet. The principal fracture was through the body of the fifth dorsal vertebra, and, the bodies of the third and fourth being separated from their laminæ, were shot in front of the sixth and seventh. The displaced bones were firmly ossified in their new situations. The specimen was sawn through perpendicularly, and the division of the cord was seen to be complete. The symptoms were those common to these cases. The point of interest was the long continuance of life under these circumstances. Dr. P. stated that death usually occurs before the expiration of the fourth week.—*Amer. Jour. Med. Sci.*

Case of Ovariotomy. By S. D. GROSS, M. D. Professor of Surgery, in the University of Louisville.—In the *Western Journal of Medicine*

and Surgery, Dr. G. reports the details of a case of ovariotomy performed by him in June last. The patient, twenty-two years of age, unmarried, three years previous, first discovered a small tumor, low down, and to the right of the abdomen. It gradually increased in size, and showed evidences of being partly fluid. On the 2d of June, 1849, it was so large as to cause serious inconvenience by its weight and bulk. She was tapped, and three gallons of a thick, ropy fluid were drawn off. The relief following was but temporary. On the 19th of June, the operation for the removal of the tumor was performed. The case progressed favorably until the 8th of July, when she was seized, apparently from exposure to damp, with a severe chill, followed by peritonitis, from which on the 17th she died. The tumor after removal weighed about nine pounds.

MISCELLANEA.

Veratrum viride.—Dr. B. T. Kneeland, an intelligent physician of Livingston county, writes us in regard to the use of veratrum viride—"I am in the habit of using veratrum to quiet the action of the heart, in diseases attended with great arterial excitement, where it is more fashionable to employ digitalis, and with far more certainty of effect than I could ever obtain with the latter remedy. I have thus used veratrum in rheumatism, pneumonia, the early stages of fever, &c. I first tried it in a severe case of pneumonia, the patient having already passed into a comatose state from what I considered defective arterialization of the blood, and with applications of cold to the head, and warmth to the feet, had the satisfaction of seeing a return of consciousness within twelve hours, and his recovery under the continuance of the same treatment. In a case of acute rheumatism, after employing the wine of colchicum, and various other remedies without any apparent benefit, the pulse still continuing at 120, full and hard, I gave three grains of the powdered root of veratrum viride, which acted powerfully upon the circulation, causing temporary blindness, and reducing the frequency of the pulse to 85 per minute. He was now put upon lemon juice, and had a rapid and most satisfactory convalescence.

"I recollect to have read in one of the last numbers of the N. Y., Journal a plan of treating continued fever, by giving tartar emetic until free vomiting is induced and then relying upon large doses of quinine. Now I have ventured a step beyond this and commenced the treatment of those cases which began with the usual symptoms of fever, with veratrum and have obtained the most gratifying results. It has seemed to *procure periodicity* and thus prepare the case for the successful administration of quinine. With this treatment I have had no case last over five days, contrary to my former belief, that typhus fever must run until the morbid poison is eliminated. When the usual treatment is pursued the majority of cases prove fatal in this vicinity, and those which recover have a long and tedious course.

Transactions of the American Medical Association.—We are in receipt of the 5th volume of these transactions, almost too late, even, for

this slight announcement. The fact that a review of this large and valuable volume did appear in one of our contemporaries, from four to six weeks previous to its distribution to the several editors of *Medical Journals* of the country needs an explanation, and merits the attention of the Association. We understand that a smaller edition of this, than of the preceding volumes, has been printed. It is necessary, therefore, that those who desire it should apply early. The price of the volume is five dollars. It is announced that a few complete sets of the Transactions (from Vol. I. to V., inclusive) remain on hand, which can be obtained by transmitting twenty-five dollars to Messrs. Blanchard & Lea, Philadelphia.

The Prescriber's Pharmacopœia :—If the rapid sale of successive editions of any work is a fair test of its value, as it certainly is of its adaptation to the necessities of the class to whom it is addressed, this little book takes an important rank among recent medical publications. It presents in a concise and convenient form for reference, the various articles of the Materia Medica, with their uses, doses, modes of administration, incompatibles, &c., with a variety of useful formulæ. The American Editor has judiciously added to the London Edition formulæ for proprietary medicines, diet for the sick, &c., and revised the formulæ to make them correspond with the last edition of the U. S. Dispensatory. The whole forms a very useful and convenient little volume.

New-York State Medical Society.—We regret our inability for want of space to give a detailed report of the proceedings of the State Medical Society held in Albany, on the 1st, 2d, and 3d ultimo. The representation was good, and under the able presidency of Professor Clark, the session was one of unusual interest. Several interesting and valuable papers were read, and referred to the committee on publication, which will appear in the forthcoming volume of transactions. The discussions of these papers occupied a moderate share of the attention of the Society, and in most cases were of a very practical character. We are pleased to learn that a special committee was appointed to confer with the medical gentlemen of the Legislature, as to the propriety and practicability of the passage, at the present session of the Legislature, of an act having in view the more equal representation of the medical talent of the State in this Society.

Amputation of the Lower Jaw.—In a recent interview with Professor Ackley of Cleveland, Ohio, we were informed that in the month of July, 1850, this distinguished surgeon, by external incision, removed the entire lower jaw for osteo-sarcoma (?). The patient entirely recovered from the operation, and lived until September 1852, when he died of another disease. We have been promised the details of this case for ublication.

TO READERS AND CORRESPONDENTS.

☞ We would call the attention of our subscribers to the fact that there are at present *no authorized* travelling agents for this Journal in the Southern and Western States, and that all remittances should be made directly to the proprietors, by mail.

The following works have been received since our last:

Atlas of Pathological Histology. By Dr. GOTTLIEB GLUGE, Professor of Physiology and Pathological Anatomy in the University of Bruxelles, etc., etc. Translated from the German by JOSEPH LEIDY, M. D., Pathologist to St. Joseph's Hospital, Philadelphia, etc., etc. With three hundred and twenty figures, plain and colored, on twelve copperplate engravings. Philadelphia: Blanchard and Lea, 1853. (From the Publishers.)

The Opium Trade; including a Sketch of its History, Extent, Effects, &c., as carried on in India and China. By NATHAN ALLEN, M. D. Second edition. Lowell, 1853. (From the Author.)

New Views on Provisional Callus. By FRANK H. HAMILTON, A. M., M. D. Buffalo, 1853. (From the Author.)

Faculté de Médecine de Paris. Thèse pour le Doctorat en Médecine presentée et soutenue le 5 Août, 1852. Par SAMUEL LEE BIGELOW, né à Boston, U. S., DOCTEUR EN MÉDECINE, Recherches sur les Calculs de la Vessie, et sur leur Analyse Micro-Chimique. 4to. avec un Atlas folio. Planches, viij. Paris, 1852. (From the Author.)

Lectures on the Science of Life Insurance, addressed to Families, Societies, Trades, Professions, Considerate Persons of all Classes. By MOSES L. KNAPP, M. D. Second edition. Philadelphia: E. S. Jones & Co., 1853. (From the Author.)

The Obstetric Catechism; containing 2,347 Questions and Answers on Obstetrics Proper. By JOSEPH WARRINGTON, M. D. With one hundred and fifty illustrations. Philadelphia: Barrington & Haswell, 1853. (From the Publishers.)

Maclise's Surgical Anatomy; with additions from Bourgery, &c. Edited by R. U. PIPER, M. D. Part I. Boston: John P. Jewett & Co., 1853. (From the Publishers.)

A Clinical Phrase Book; in English and German, containing the usual Questions and Answers employed in examining and prescribing for patients, etc., etc., etc. By MONTGOMERY JOHNS, M. D. Philadelphia: Lindsay & Blakiston, 1853. (From the Publishers.)

The Principles of Botany, as exemplified in the Cryptogamia, for the use of schools and colleges. By HARLAND COULTAS. 12mo., pp. 94. Philadelphia: Lindsay & Blakiston, 1853. (From the Publishers.)

Contributions to Obstetric Pathology and Practice. By JAMES Y. SIMPSON, M. D., Professor of Midwifery in the University of Edinburgh. Edinburgh, 1853. (From the Author.)

Notes on some Ancient Greek Medical Vases for containing Lykion; and on the modern use of the same drug in India. By J. Y. SIMPSON, M. D., F. R. S. E., Professor of Midwifery in the University of Edinburgh, etc., etc. Edinburgh, 1853. (From the Author.)

Homœopathy; its Tenets and Tendencies; Theoretical, Theological, and Therapeutical. By JAMES Y. SIMPSON, M. D., F. R. S. E., Professor of Midwifery in the University of Edinburgh, etc., etc. Third edition. Edinburgh, 1853. (From the Author.)

Transactions of the Kentucky State Medical Society, at their meeting held in Louisville on the third Wednesday of October, 1852. Louisville, 1853. (From the Society.)

Annual Report of the City Inspector of the number of Deaths and Interments in the City of New-York, during the year 1852. (From THOMAS K. DOWNING, City Inspector.)

Elements of Health and Principles of Female Hygiene. By E. J. TILT, M. D. 12mo., pp. 436. Philadelphia: Lindsay & Blakiston, 1853,

Tenth Annual Report of the Managers of the State Lunatic Asylum of the State of New-York. Albany, 1853. (From Asylum.)

Report of the Eastern Lunatic Asylum, in the City of Williamsburg, Virginia, 1852–3. Richmond, Va., 1853. (From Superintendent.)

We are in receipt, since our last issue, in addition to our usual exchanges, of the following new medical Journals:

The Virginia Medical and Surgical Journal; edited by GEORGE A. OTIS, M. D., and HOWELL L. THOMAS, M. D.; for April. (Monthly. Richmond, Va.)

The American Psychological Journal; edited by EDWARD MEAD, M. D.; for January. (Quarterly. Cincinnati, O.)

The Glasgow Medical Journal; edited by ——; for April. (Quarterly. Glasgow, Scotland.)

☞ Communications intended for publication, and Books for Review, should be sent, *free of expense,* directed to Drs. Purple and Smith, Editors of the New-York Journal of Medicine, 183 Hudson-street, *New-York.* Persons at a distance may direct parcels, or exchanges, *paid* as above, under cover, to M. J. B. Bailliere, Rue Hautefeuille, *Paris;* or H. Bailliere, 219 Regent-street, *London;* or Lindsay & Blakiston, *Philadelphia;* or Wm. B. Ticknor & Co., *Boston.* The attention of Correspondents is respectfully requested to the above, as the Publishers are frequently subjected to unnecessary expense for postage and carriage.

All remittances of money and letters on the *business* of the Journal, should be directed to the Proprietors.

☞ Particular attention is requested to the above, as parcels, communications and exchanges have failed to reach us, owing to inadvertence or want of attention to these notices.

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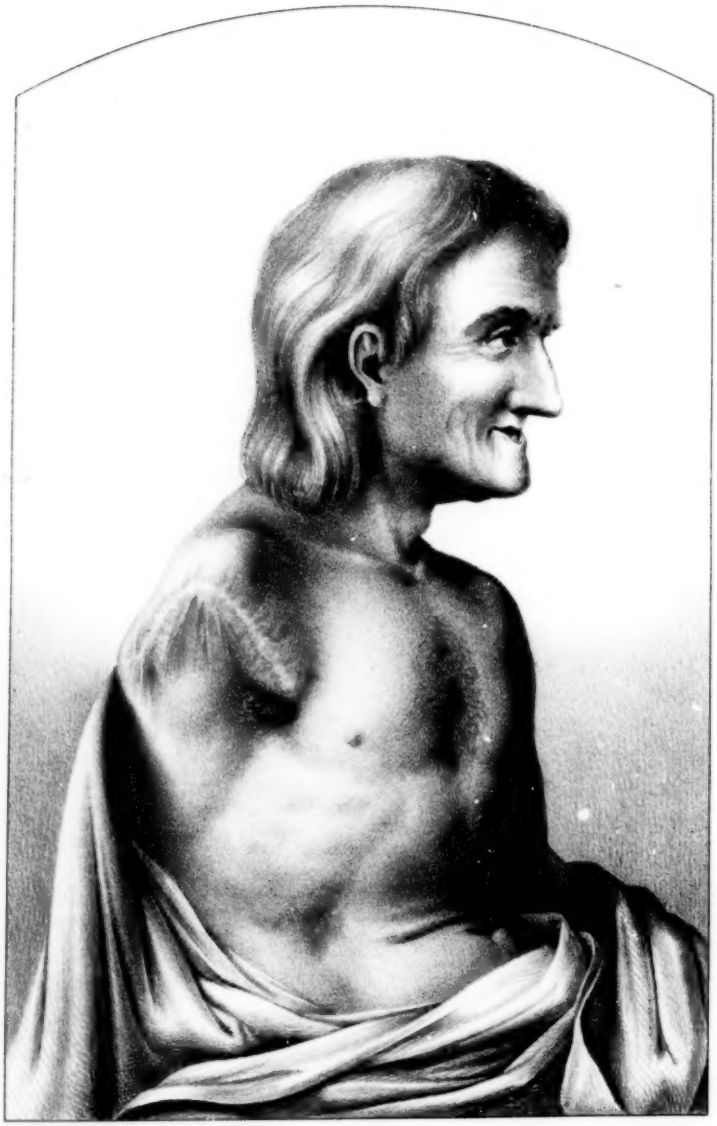

DR PEASLEE'S CASE OF AMPUTATION
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